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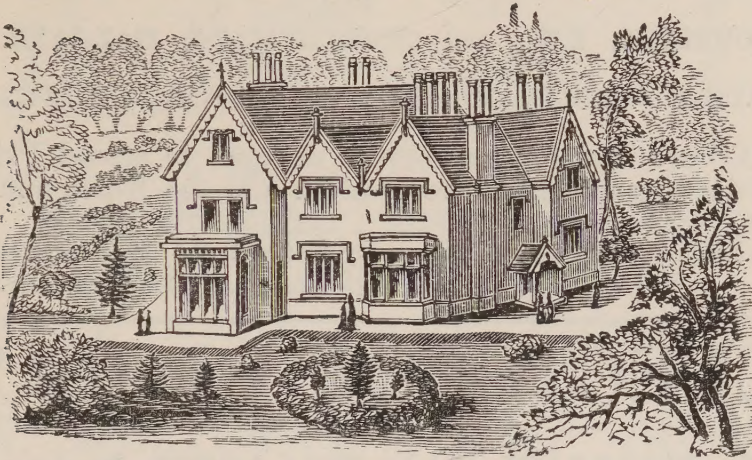
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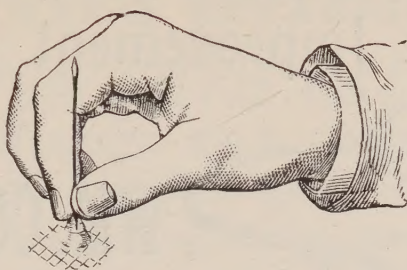
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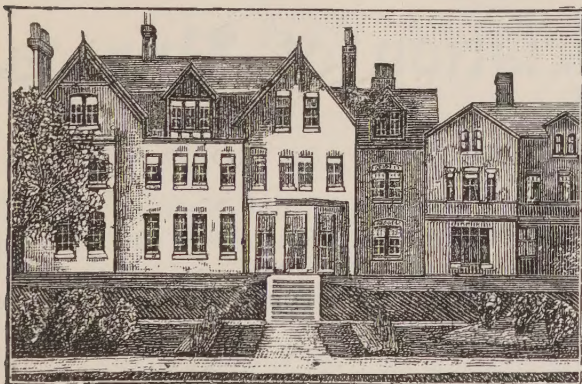
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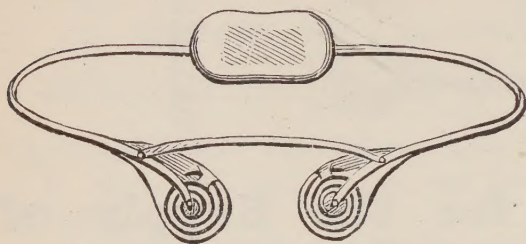
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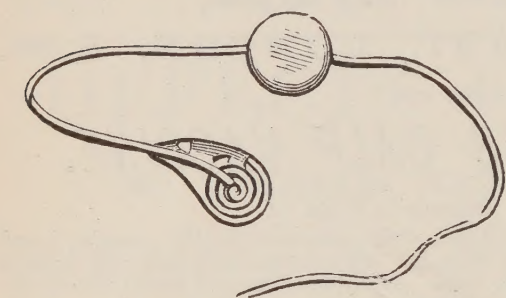


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A full reference has been given to every article noticed.

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THE
YEAR-BOOK OF TREATMENT
FOR 1885.

DISEASES OF THE HEART AND
CIRCULATION.

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1. The treatment of acute rheumatism and its cardiac complications.

Dr. Bristowe (*Brit. Med. Journ.*, 1885, ii. 332), in opening a discussion in the Section of Medicine at the Annual Meeting of the British Medical Association in Cardiff, said that, assuming that we have a drug which is competent to arrest the rheumatic process, and that it is administered effectively before the heart has become implicated, it is obvious that the heart must share in the general benefit, and that the liability to heart-disease in such cases must be lessened. If, then, the salicyl treatment is specific against rheumatism, as he believed it is, it must *pro tanto* be specific against the component parts of the disease, and, therefore, against its cardiac factor.

Dr. Sidney Coupland gave it as his experience that of late years he had seen very much less pericarditis in acute rheumatism, as compared with ten years ago, a period before the introduction of salicine into medicine. In Dr. Markham Skerrett's experience, the result of the treatment of acute rheumatism by salicylates had been, on the whole, eminently satisfactory, but the drug might fail to prevent relapses and to avert complications. Dr. Pavy held that the salicyl treatment does not influence the complications as it does the disease itself. With the disease subdued at once by the treatment, the complications were not so likely to arise as under other circumstances; but if a patient were

admitted into hospital with pericarditis or endocarditis, this was not influenced in any marked manner by the treatment.

2. Substitutes for digitalis.

† Falkenheim (*Deut. Arch. f. klin. Med.*, 1884, xxxvi., 1 and 2, and *Med. Chronicle*, March, 1885, p. 540) has recently given helleborëin to seven patients suffering from heart-disease. Helleborëin is one of the two alkaloids contained in the root and root-leaves of *Helleborus niger*, Christmas rose; it is a crystalline glucoside, soluble in water. Three of the cases seemed quite unaffected by the drug; in three, more or less diuresis occurred after its use; and in one of these digitalis had previously failed to increase the flow of urine. The seventh patient suffered from mitral insufficiency with irregular pulse and œdema, and seemed greatly benefited by the helleborëin. The daily flow of urine increased from 800 ccm. to 2,000 ccm., the œdema disappeared, and the pulse became more regular. The drug was given in the form of pills, each of which contained about $\frac{1}{7}$ th of a grain; four to ten were given daily. Helleborëin is apt to cause diarrhœa, and is distinctly more uncertain in its action than digitalis; but it may eventually be found of service where foxglove fails or is not well borne.

3. Strophanthin, the new diuretic.

† Professor Fraser's (*Brit. Med. Jour.*, 1885, ii., p. 263) communication on *Strophanthus hispidus*, to the Section of Pharmacology and Therapeutics at the meeting of the British Medical Association at Cardiff, places us in possession of a new and valuable cardiac remedy and diuretic. It appears that the drug is used in many parts of Africa as an arrow-poison. The plant which yields it belongs to the Apocynaceæ, and has been described and figured by Professor Oliver, of Kew, under the name of *Strophanthus Kombé*. It is a woody climber, and flowers in October and November. The follicles, 10 to 12 inches in length, contain 150 to 200 seeds, each weighing about half a grain, and bearing a beautiful plumose tuft, placed at the extremity of a delicate stalk. They contain no alkaloid, but are rich in an active principle, which Dr. Fraser calls *strophanthin*. This is a crystalline substance of intense activity, which seems destined to play a useful part in our list of cardiac remedies. In physiological action it is allied to digitalin and other members of the digitalis group. It has been used both experimentally on animals, and clinically in the wards of the Edinburgh Infirmary. The dose for hypodermic injection is from $\frac{1}{120}$ th to $\frac{1}{60}$ th of a grain.

4. Kola.

Dr. Leon Monnet (*Therapeutic Gazette*, 1885, p. 223, and *Med.*

Times, 1885, ii., p. 26), in a paper on the physiological and therapeutical value of Kola, arrives at the following conclusions respecting this drug, the fruit of a small Central African tree, *Sterculia acuminata*. Analysis shows that it contains 2 per cent. of caffeine, with .02 per cent. of theobromine and tannin. The negroes esteem the fruit very highly on account of its medicinal properties, which they consider to be tonic, nutritive, excitant, and aphrodisiac.

(1) Kola, in virtue of the caffeine and theobromine which it contains, is a cardiac tonic, accelerating the action of the organ, whilst it improves its force and rhythm. (2) In the second phase of its action it becomes, like digitalis, a regulator of the pulse, the force of which it increases, the pulsations becoming more ample and less frequent. (3) As a result of its effect on the blood-pressure, it acts as a diuretic—a fact which renders it valuable in cardiac dropsy. (4) Whilst it diminishes tissue-change, it is tonic, and decidedly improves the appetite and digestion.

M. Dujardin-Beaumetz has employed the drug in the form of an infusion (a cupful twice a day), as a liquid extract, or prepared like chocolate.

5. Notes on cases of mitral disease.

Dr. Macaskie (*Med. Times*, 1885, i., p. 345) dwells on the importance of grasping the meaning of certain symptoms in the beginning of cardiac failure, such as palpitation, sternal pain, or intermittency of the pulse. The sooner, after breakdown of compensation has occurred, we are able to employ remedial measures, the more certain in their curative action do these remedies become. It is at this time that much can be done with digitalis.

6. On the action of digitalin, caffeine, ammonia, and quinine upon the heart.

Talma and Van der Weyde (*Zeitsch. f. klin. Med.*, 1885, ix., 276) have attempted to discover the intimate action of these drugs upon the circulation, by comparing the effects of digitalis, ammonia, and caffeine, in cases of failure of compensation, with their effects in weakened heart from over-doses of quinine and antimony. Quinine diminishes the force and frequency of systole, and strengthens the diastole—probably by affecting the elasticity of the muscular tissues; and it was found that digitalis removed the cardiac weakness in two cases of this kind (as well as experimentally in animals), by rendering systole more swift and more powerful, and (later) by diminishing the extent of diastole. A proper combination of quinine and digitalis lengthens diastole

(quinine), and leaves systole untouched; the total result being increase of the cardiac work by fully one half. On the other hand, in antimony poisoning the diminution of the diastole was the chief antidotal effect of digitalis. From these observations the authors also conclude that digitalis may be of benefit in cardiac cases with diminished, as well as in cases with increased frequency, which indeed is in accord with experience, but is often forgotten. Ammonia and caffeine yielded analogous results.

7. On the action of electricity on the human heart (*Med. Chronicle*, April, 1885.) **The influence of the induced and continuous current upon the action of the heart in man.** (*Arch. f. exper. Path. ii. Ther.*, December, 1884).

Dr. Dixon Man, of Manchester, in the first of these papers summarises the second, which is written by Herbst; and gives a valuable account of fresh observations which he has himself carried out. It is now three years ago since Ziemssen proved that no reliance can be placed on faradism as a cardiac stimulant, whilst galvanism accelerates the frequency of the heart, influencing at the same time its force and rhythm (*Deut. Arch. f. klin. Med.*, xxx., p. 270; and *Brain*, October, 1882, p. 19). The issue of a number of experiments made upon adults of both sexes by Dr. Dixon Man was unfavourable to the view that the action of the human heart can be controlled by electricity administered through the normal thorax. During administration of the voltaic current—either continuous or interrupted, in no instance could any direct influence on the heart be observed in regard to either the rate or the character of its contractions. The same observations apply to the faradic current. It therefore appears tolerably clear that little is to be expected from electricity as a therapeutic agent in the treatment of heart-disease. (Compare § 22.)

8. Electricity as a stimulus in cardiac and respiratory failure.

Dr. Gaspar Griswold (*Boston Medical and Surgical Journal*, March 5, 1885, p. 230), at the New York Academy of Medicine, opened a discussion on this subject. Having recorded certain cases, and described his experiments on animals, he came to these conclusions:—(1) That electricity cannot be applied clinically in such a way as to stimulate the heart, literally speaking; (2) that the application of one pole to the neck and the other to the præcordial region stimulates the pneumogastric, and may kill the patient; (3) that stimulation of the phrenic nerve necessarily involves stimulation of the pneumogastric, on account of the proximity of the two nerves in the neck; (4) that the liability to

stimulate the pneumogastric is not so great in aconite, ether, or opium poisoning, on account of the paralysis of that nerve caused by these drugs, and that electrification may, therefore, be safely practised in such cases to a certain extent in order to restore the respiration; (5) that in heart-failure from chloroform, or from the injection of morphia into a vein, the application of electricity to the neck is strongly contra-indicated; (6) that under no circumstances should a current strong enough to excite muscular contraction be applied suddenly over the neck, as instant death may result.

In the discussion which followed Dr. Griswold's paper, opinion was divided as to the use and safety of galvanisation of the pneumogastric in cardiac failure. Dr. Putzel pointed out that we must speak of galvanising *the neck*, not "the pneumogastri-*c*s." He had himself never seen any change in the heart's action produced by a 25-cell current applied to the neck. The President, Dr. Jacobi, also dwelt on the danger of continuing the application too long, as paralysis of the cardiac and respiratory functions followed their temporary stimulation. The best practical way, in his opinion, was not to confine the current to the nerves, but to apply it generally to the muscles.

9. Draught of amyl nitrite.

Dr. Richardson (*Asclepiad*, July, 1884), gives a formula for the administration of amyl nitrite by the mouth:—Amyl nitrite, pure, ℥xxxv; ethylic alcohol (sp. gr. .830), ʒv; pure glycerine to ʒiiss. To make a mixture of twelve doses. One fluid drachm to be taken in a wine-glassful of warm water.

10. Paraldehyde.

Professor Leech, of Manchester (*Med. Chronicle* i., p. 399), in discussing the action and uses of this new hypnotic, says that its use as a soporific is indicated when chloral seems called for, but the heart's action is so weak or irregular that danger may arise from any depressing cardiac influence. In the enlarged, flabby, or fatty heart, chloral is a dangerous remedy; but paraldehyde may be given without fear, and where there are anginal symptoms perhaps with advantage, because of its tendency to reduce arterial tension. He has several times used paraldehyde in cardiac diseases when the heart's action has been extremely weak, with most satisfactory results. When opium and chloral cannot be given, paraldehyde, though its sedative effect may not be great, will afford such cases intervals of sleep, and considerably mitigate distress. Unfortunately, the new drug has some disadvantages, to wit, its taste—also an unpleasant taste in the mouth long after it has been taken, and sickness and pain in

the epigastrium if the stomach be irritable. Professor Leech's favourite formula is :—

Paraldehydi	. . .	℥50.
Sqr. Aurantii	. . .	3ii.
Aquam ad	. . .	3i.
Fiat haustus.		

Paraldehyde may also be given in capsules. As a rule, it is well to begin with a dose of 50 minims. He has never given more than two fluid drachms at once. The dose may have to be increased as the system gets accustomed to the drug.

11. Therapeutic value of arsenic.

Dr. Wilks (*Lancet*, 1885, i., p. 653) says that in the neuralgia of the gouty he has found arsenic amongst the most efficacious of medicines, and in some cases the only remedy of value. Before nitro glycerine was introduced, he relied mainly upon arsenic to keep off attacks of angina pectoris.

12. Gouty affections of the heart.

Dr. Milner Fothergill (*Med. Press*, May 27, 1885, page 459), in a paper on this subject, thus insists upon the proper treatment of organic cardiac disease of gouty origin :—All through and ever, from beginning to end, at every step in the morbid chain, we must hold to the conviction that the starting-point of the gouty heart is a waste-laden condition of the blood. This lies at the root of the whole long morbid series of sequences. It sets it on foot ; it gives it its inter-current dangers. When there is any temporary increase in the nitrogenised waste of the blood, there is a corresponding rise in the arterial tension from further spasm in the arterioles. Such sudden rise in the blood-pressure may set up apoplexy, aneurysm, or angina. And when the last occurs, the obstruction to the onward flow of blood from the heart may lead to paralysis of the heart in diastole, when the heart is undermined by fatty decay. All through the long process it is well to diet the patient, so as to keep down the nitrogenised waste in the blood ; whenever any temporary aggravation exists, to cleanse the blood by a cholagogue and purgative. When any of the first described incidents of gouty disorders manifest themselves, some uric acid solvent, as lithia or potash, is indicated, with a vegetable tonic.

13. Cases of aneurysm of the abdominal aorta.

Mr. Jonathan Hutchinson (*Med. Times*, 1885, i., p. 527), in a discussion on the treatment of aneurysm by surgical measures, said he would not like it to be thought that he undervalued surgical treatment if in these cases he advocated medical treatment. He could not agree with speakers who regarded cases of high aneurysm of

the aorta as quite hopeless. He had published one case of abdominal aneurysm which had been entirely cured by drug treatment, which consisted in ample doses of acetate of lead and several large ice-bags to the abdomen. The lead was pushed to the fullest physiological limit, and the patient got blue lines on the gums; he was kept on a very dry diet. In three months the man was up and out of bed, quite recovered. In lead, ergot, and iodide of potassium we had drugs exercising a powerful influence, either carrying off the fluid portions, or exercising a direct action on the arterial system. The drugs could be given alone or combined—they were in no way incompatible, and they ought to be given in full doses. We should gain nothing by half measures.

14. Galvano-puncture in a case of aneurysm.

Dr. Brancaccio (*Med. Press*, Aug. 26, 1885) relates, in the *Rivista Internat.*, a case of aneurysm of the ascending aorta very much relieved by galvano-puncture. There was no previous history of any value except that of alcoholism. The tumour projected about an inch in the infra-clavicular region, and was bounded above by the upper border of the second rib, to the left by the mammary line, to the right by the sternum, whilst below it merged into the cardiac dulness. The heart was healthy; the radial pulse, small and occasionally intermittent, was synchronous with the beat of the heart. Severe pain in the chest, cough, and dyspnœa were present. Daniell's battery, consisting of fifteen elements, was employed. Two strong steel needles were plunged 3 cm. deep, 4 cm. from each other, in the third intercostal space. The left needle was connected with the positive pole, the right with the negative. The operation lasted sixteen minutes. Dr. Brancaccio saw the patient ten hours after: the pain had then disappeared, respiration was normal, the swelling diminished, the pulse from 118 had fallen to 90, altogether he was stronger and better. The second operation took place twenty days later, the number of elements being increased to twenty. Severe pains, rigors and pyrexia followed, but soon passed away. The operator thought fit, however, to lessen the number of elements to fifteen at the third and fourth operations. Eight weeks after the last operation the patient left the hospital at his own desire. His general condition was much improved. The cardiac pain had disappeared, the tumour was smaller by at least an inch, the cardiac impulse was more powerful, the pulse more regular, fuller, and stronger. The author recommends galvano-puncture for small aneurysms which have not an extensive communication with the artery. The case proves, at the same time, that the situation of an aneurysm just above the aortic valves is no contra-indication to

the use of galvano-puncture, as several authors have stated, thinking that the difficulties of clot formation in that situation were insuperable.

15. Paracentesis pericardii.

Dr. Grainger Stewart (*Edin. Med. Jour.*, Aug., 1885, and *Med. Times*, 1885, ii., p. 232), in a communication read before the Medico-Chirurgical Society of Edinburgh, described a case in which this operation had been performed. The patient was seventeen years of age, and pericarditis had supervened upon inflammation of the lungs. Aspiration was performed in the fifth intercostal space towards the left margin of absolute dullness, and two ounces of a reddish blood-stained serum withdrawn. Two days later it was again found necessary to tap him, and four ounces of fluid were withdrawn. The patient made a rapid and complete recovery. Professor Stewart analysed all the recorded cases of this operation, finding thirty-eight successes and fifty-nine failures. He then gave the following answers to the question, What are the indications for its use?—“(1) It should be tried whenever life is imperilled by the copiousness of the effusion. (2) It should be tried even if pericarditis be not in itself dangerous, in any case of considerable pericardial effusion in which the pulse threatens to fail, whether it be due to inflammatory or degenerative changes in the cardiac muscle, or to general debility from severe or prolonged disease.” As to the best rules for operative procedure, he said :—“(1) Exploratory puncture should be made by means of a Wood’s syringe, or other fine perforated needle, the needle being cautiously introduced at a point where there is absolute dullness, and least likelihood of injuring the heart. (2) If serous fluid be found, the fine needle of an aspirator should be introduced at the same point, and the fluid drawn off. (3) If purulent fluid be found, either aspiration, or what is probably better, free incision, should be resorted to, and the pus evacuated. The splendid results obtained from the latter plan of treatment by Dr. West and by Professor Rosenstein of Leyden, must satisfy any one who reads their papers of the value of this method. (4) As to the quantity to be drawn off, opinions are somewhat contradictory. If the fluid be purulent, it is obviously desirable to remove the whole of it as speedily as possible ; if it be serous, I think that this rule does not necessarily hold. While admitting that there is plenty of evidence to show that the pericardium may be emptied, or almost emptied, without danger to the patient, it appears to me that only a sufficient quantity to give relief should be removed. It is a sound principle that in dealing with vital organs, only the minimum amount of interference

required should be had recourse to ; and especially in cases which threaten failure of pulse is this precaution necessary. It is conceivable that the sudden removal of considerable pressure from the surface of the heart might sometimes lead to fatal syncope, while the removal of a small quantity of fluid would involve no such danger. You are familiar with the occasional occurrence of syncope when paracentesis of the pleura is being performed, and whatever may be the explanation of this fact, it seems quite as likely to occur in connection with the pericardium. I therefore prefer, as at present advised, to draw off only a small number of ounces, and, if necessary, to repeat the operation rather than to adopt the method recommended by the majority of authorities, and draw off a large quantity at once. (5) At what point should the puncture be made? It is not very important what point is selected for puncture, so long as the operation is performed with caution. Obviously, wounding the heart is to be carefully avoided, notwithstanding the fact that it has been wounded, and even penetrated, without seriously bad effect. I should insist upon the puncture being made where there is absolute dulness, and should prefer the fifth interspace as much to the left of the sternum as possible. By such a rule we must avoid risk of injuring the heart."

16. Purulent pericarditis—aspiration—death.

Dr. Raven, of Broadstairs (*Brit. Med. Jour.*, 1885, i., p. 1246), records a case of pericarditis, with very large purulent accumulation, in a man of thirty. The pericardium was aspirated three times, on the 19th, 24th, and 31st days respectively, with immediate relief. Incision was proposed, but the patient declined further interference, and died a week after the last operation. Two pints of pus were found in the pericardium post-mortem. The chief impression made by the case upon Dr. Raven was the futility, except as a means of temporary relief, of merely drawing off pus from the suppurating serous membrane, and the necessity of drainage.

17. Paracentesis in pericardial effusions.

Dr. Leech, of Manchester (*Med. Chronicle*, vol. ii., p. 441), records a successful case of paracentesis pericardii, and discusses the operation as a method of treatment. His patient, a man of twenty, was suffering from his third attack of acute rheumatism, with chronic mitral disease, severe bronchitis, considerable œdema of the legs, back, penis and scrotum, and albuminuria. Acute pericarditis supervened in hospital. Vertical dulness extended to the first rib, two fingers' breadth beyond the right edge of the sternum. Distress was extreme : the patient could not lie down :

suffering from cardiac pain, dyspnœa, and restlessness. The pericardium was tapped by Mr. Wild. The presence of fluid having been proved, a fine trochar was introduced in the fourth space, one inch to the left of the sternum, and on withdrawing the stilette, a small india-rubber tube filled with water was screwed on to the canula, the other end dipping into water, by which all danger of air entering the sac was prevented. The fluid could flow freely, but forcible exhaustion was avoided. The trochar, after introduction into the pericardial sac, was turned a little upwards. Serum tinged with blood at once began to flow away, at first slowly, but after two ounces had escaped the discharge was much more rapid. The canula was at first moved to and fro slightly, but towards the end of the operation it was evidently more in contact with the heart, for it was violently agitated by the cardiac movements, although gradually withdrawn as the amount of fluid in the sac decreased. As the fluid flowed, the man's distress became less, and the pulse improved. The canula was not finally withdrawn until the slow and scanty outflow appeared to show that the cavity had been as far as possible emptied. After the operation, it was found that the area of dulness was greatly lessened in size, and the general condition of the patient had improved. The pain was lessened, and he breathed more freely than he had done during the previous forty-eight hours. During the next week there was some return of the effusion, dyspnœa, cough, and pain; but ten days after the operation evidence of fluid in the pericardial cavity had disappeared, and no friction sound could be heard. From that time onwards the patient was free from symptoms of pericarditis.

Like Prof. Stewart, Dr. Leech analyses the recorded cases of paracentesis pericardii. Of ninety-six that he has been able to collect, and excluding doubtful, scorbutic, and purulent cases, he finds that there are sixty-five instances of the operation on record, of which forty recovered, thirteen were relieved, and twenty-two died. Most of the fatal cases were the victims of other serious ailments besides pericarditis. In all but five, where a record of the post-mortem condition has been furnished, tubercle, phthisis, pleurisy, or pneumonia is described as present in addition to pericarditis. Inasmuch as the operation does not appear to be accompanied by great danger, it becomes a question whether it might not with advantage be used more frequently than it has hitherto been, when grave symptoms arise in connection with considerable pericardial effusion. He fully agrees with the rules laid down by Dr. Stewart, and already quoted (§ 15).

It is undoubtedly wise to prove the presence of serum by a fine needle and subcutaneous syringe before proceeding to attempt

to remove the fluid from the pericardial sac; but if serum be found, it seems to Dr. Leech that it is better to employ a trochar and a siphon apparatus than an aspirator. The contact of a sharp needle with the heart, even for the short time required for aspiration, is not pleasant to contemplate, when one has seen the vehemence with which the heart moves to and fro any instrument in contact with it. The stilette of the trochar can be withdrawn immediately the sac is perforated, and then, too, it is much better to let the heart slowly expel the fluid which has intruded into the pericardial sac, than to draw it out forcibly by an exhaustor. When the trochar is used, Dr. Leech sees no disadvantage in withdrawing all the fluid which will pass away, though with an aspirator this course might not be devoid of risk. It can scarcely be necessary to exert suction power, but if the trochar be furnished with a tap and screw top, the siphon tube may at any time be replaced by the tube of an aspirator.

Should the preliminary puncture show that the fluid in the pericardium is purulent, there can be little doubt, after the experience of Rosenstein and West, that incision is the best plan of treatment.

18. Resection of ribs for pyopericardium.

Professor Gussenbauer (*Wien. med. Wochensch.*, Nov. 21, 1884), at a meeting of the Verein deutscher Aerzte in Prague, exhibited a boy, thirteen years old, in whom he had evacuated by thoracotomy the fluid of a pyopericarditis accompanying acute osteomyelitis. The operation was successful and the boy entirely recovered. The osteomyelitis resulted from a fall upon the right shoulder, which was followed by local pain and high fever, with great swelling of the shoulder and adjacent parts. A diagnosis of osteomyelitis was shortly made; and on the 3rd of May, fourteen days after the accident, the boy was operated upon. An incision made in the infrascapular fossa was followed by the escape of pus, and the bone presented a greyish appearance. The operation was done with antiseptic precautions. The temperature did not fall as expected, but rose without any apparent cause. On the 20th of May, fluid was discovered in the left thorax, whilst the heart was not noticeably displaced, and the intercostal spaces were not obliterated. At first a left pleurisy was suspected, and an exploratory puncture showed a puriform exudation. The patient at last becoming cyanotic, an operation was decided upon, and five ribs were resected. It was then noticed that the intrathoracic fascia was not thickened, and further examination showed the effusion to be pericardial. The pericardium was then fixed to the edges of the wound, to prevent escape of the fluid, on its

evacuation, into the pleural cavity. During the operation the heart could be seen and felt palpitating. The pericardium, after the withdrawal of the purulent contents, was washed out with a thymol solution. The following day there was marked improvement, the temperature fell at once, and complete restoration soon followed.

19. On pericarditis, probably the result of traumatism.

Dr. E. T. Bruen, of Philadelphia (*Philad. Med. Times*, Jan. 10, 1885, p. 261), in discussing a case of pericarditis in a man, probably referable to a railroad accident seven weeks previously, inquires, What shall be done for the patient? The treatment of pericarditis depends altogether on its cause. If in a case of articular rheumatism the symptoms of pericarditis make their appearance, the practitioner will simply continue the treatment of the rheumatism. If this is the alkaline treatment, he will simply push the alkaline remedies. There are two plans of treating rheumatism: the method with large doses of alkalies, and the method with the salicylates of sodium and ammonium. His own plan was to always use the alkalies in addition to the salicylate of sodium until the urine becomes alkaline, when the amount of alkali was diminished, but still continued sufficient to keep the urine alkaline. When pericarditis occurs in the course of Bright's disease, treatment will not be of much service, but the usual regimen for Bright's disease will be proper. As the present case was one of simple inflammation of the serous sac, he would treat it as we ordinarily treat inflammation of a serous sac: he would apply blisters, and use acetate and iodide of potassium internally, whilst the action of the heart was supported by means of small doses of digitalis, and, if necessary, alcohol.

20. Mediastino-pericarditis in children.

Dr. H. R. Hutton, of Manchester (*St. Thomas's Hosp. Reports*, N.S., vol. xiii., p. 211), records and discusses five cases of this disease in which the prominent symptom was peritoneal effusion, dependent immediately upon obstruction to the flow of blood through an enlarged liver. Treatment appeared certainly to prolong life, and add to the patient's comfort, but this is the most that can be said. By mechanically removing the fluid from the peritoneal cavity, relief was obtained and death avoided, but no impression was made upon the disease, which progressed steadily to the end.

21. Exophthalmic Goître.

Dr. Peabody, of New York (*Philad. Med. Times*, April 4, 1885, p. 497), in a clinical lecture on this subject, says, with reference

to treatment:—As to the increased rapidity of the heart's action and palpitation, we can do little in the way of direct treatment. Digitalis and convallaria produce but little effect in these cases, so that we have practically discarded them. Iron, of course, can be given symptomatically for the anæmia, but it usually is of little benefit. Iodide of potassium has been strongly recommended, and a certain number of recoveries have been apparently traced to it. By far the greater number of cases have been benefited by treatment directed against the lesion in the sympathetic by the application of the constant electrical current to the sympathetic of the neck on both sides, employing from ten to twenty cells. A certain number of cases so treated have been reported cured.

22. Maladie de Basedow (goître exophtalmique) ; formes frustes ; nouveau signe physique ; traitement par l'électricité.

Professor Charcot (*Gaz. des Hôpitaux*, 1885, Nos. 13 and 15, and *Med. Chronicle*, 1885, ii., p. 101) adds a fourth symptom, which he considers to be of great clinical value, namely tremor, to the three main symptoms characteristic of typical forms of exophtalmic goître—the prominence of the eyeballs, enlargement of the thyroid body, and palpitation. He also speaks of the difficulty of the diagnosis in imperfect forms of the disease (*formes frustes*), when there may be but one cardinal symptom present, with various secondary symptoms.

Professor Charcot holds that we are possessed of a truly efficacious method of treatment in electricity, which is to be carried out in the following way:—

(1) The positive electrode, with a large rheophore, is applied to the posterior and inferior part of the neck ; and the negative electrode, with an olive-shaped rheophore, is strongly pressed upon the region of the carotid artery, under the angle of the lower jaw. It is found that the effects of *faradisation* are much more telling than those of galvanism. In some cases there is an immediate change in the colour of the cheek upon the faradised side, whilst the temperature there is lowered, and the feeling of orbital tension either diminishes or disappears. The two carotid regions are successively faradised at the same sitting.

(2) The negative electrode is then passed lightly over the eyelids, so as to cause contraction of the orbicular muscles.

(3) The thyroid tumour is faradised, and the sterno-hyoid and thyroid muscles, which should be made to contract.

(4) Lastly, the pericardial region is *galvanised*. The large rheophore connected with the negative pole being retained at the

back of the neck as before, the positive pole, fitted with a large flat intercostal rheophore, is applied to the inner part of the third interspace. The force of the current should vary from 30 to 70 dix millièmes (ampère). With this last part of the operation, the violence of the heart-beats diminishes at once, even if their frequency remain the same ; but it is always the most difficult part of the treatment to permanently modify the heart's action. The whole sitting should occupy ten or fifteen minutes, equally distributed over the carotid, thyroid, and cardiac regions. It should be repeated every alternate day. At first merely transitory, the effect lasts longer after each operation, and by degrees it becomes permanent. The exophthalmos and goître are the earliest symptoms to yield. The complete cure requires six months' treatment at least. It is exceptional to find cases which resist the treatment.

DISEASES OF THE LUNGS AND ORGANS OF RESPIRATION.

BY R. DOUGLAS POWELL, M.D., F.R.C.P.,

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1. Colds and bronchial catarrh.

Dr. Wood recommends (*Therap. Gazette*), R potass cit. ℥ii., succi limonis ℥ii, syrup ipecac. ss., syrupi ad. ℥vi. ℥ss., five or six times a day. Stimulant expectorants to follow after a few days, of which chloride of ammonium and, especially, oil of eucalyptus are the best.

2. Cucain in coryza.

Dr. W. S. Paget (*Brit. Med. Jour.*, Feb., 1885, p. 430) has used cotton wool, impregnated with four per cent. solution of cucain, inserted into the nostrils, in coryza. It has a decidedly contracting effect upon the infiltrated nasal mucous membrane.

3. Bronchitis.

Terpine, a bihydrate of turpentine, in doses of 20 to 60 cgms. increases bronchial secretion, liquefies expectoration, and may be usefully employed in sub-acute or chronic bronchitis. (*Med. Chronicle*, Oct., 1885, quoting *Bull. de l'Académie de Médecine*, July 28, 1885.)

4. Cough.

Frastor (*Rev. Médicale: London Med. Record*, Jan., 1885) places 50 or 60 grms. of glycerine in a porcelain capsule, and evaporates it over a spirit lamp, in obstinate cough, of phthisis, &c.

5. Coughs.

According to the *Birmingham Med. Review*, May, 1885, the inhalation of a small quantity of vaporised glycerine alleviates distressing cough.

The efficient treatment of catarrh is of much importance in those disposed to phthisis, and some such measures as those advocated by Dr. Wood have the sanction of long experience. The important point is, however, to clear up the catarrh and

prevent it from becoming chronic, and no remedy for this is equal to change of air to a dry country or seaside locality, which should be adopted by all delicate-chested people as soon as the acute stage of the catarrh is past. A few days away will often be quite sufficient.

6. Pleurisy.

Professor Pott, Halle, and Biedert (*Jahrbuch f. Kinderheilk. B. xxii., Heft 3*) advocate the resection of a portion of the eighth or ninth rib (from one to two centimètres at least) in the posterior axillary line, in the treatment of purulent effusion, antiseptics being used, and the pleura completely drained. Biedert (*ibid*), who has been very successful with this method, considers that the pleura should never be washed out.

7. Antimonials in pulmonary affections.

Dr. J. B. Nias (*Practitioner, Aug., 1885*) endeavours to revive the treatment of early pleurisy with small ($\frac{1}{8}$ gr. t. d.) doses of antimony; and he regards the drug as useful also in promoting absorption in the effusion stage. The value attributable to the drug is, however, obscured in Dr. Nias's case by the administration with it of morphia ($\frac{1}{8}$ gr.) and sulphate of magnesia (3i.), and by his further stipulating that it should not be given in doses sufficient to produce any purgative, emetic, or sudorific effects. Jaccond still prescribes $\frac{1}{16}$ gr. every hour until vomiting and purging have been produced, when he has resort to bark and cordials. Although antimony is of service in a few cases of pleurisy in which the blood pressure is high, the therapeutics of the disease has certainly gained by the very general abandonment of the use of this remedy.

Gaspanini finds (quoted in *London Med. Record, May 15, 1885*) that salicylate of soda is very useful in pleurisy, rapid re-absorption of effusion taking place.

The frequency with which pleurisy is a rheumatic manifestation will probably account for this success.

8. Pleuritic effusions.

Glax (*Zeitsch. f. klin. Med., vol. xi., pp. 471—495*) follows Körner's modification of the "thirst cure" by reducing fluid ingesta until the urine equals a half or two-thirds of ingested fluids. In addition he exhibits large quantities of common salt mixed with sugar and some strong flavouring substance, which, finding its way through the blood into the effusion, determines its resorption into the blood, whence it may be excreted by the kidneys. The average duration of this treatment is twenty-two days, which is said to be less than that of the thirst cure, and less than half that of cases treated by puncture.

9. Chloride of sodium in pleurisy.

Schultz (*Deutsch Med. Werk, N.Y.M.J., April 11, 1885*) confirms Robinson's statements (*Year Book of Treatment, 1884, p. 22*) as to the value of salt in pleuritic effusions. In a series of cases a tablespoonful of a 1-in-30 solution was given every four hours, with dry diet. Exudation diminished rapidly, and urine increased. Appetite improved, and there was an absence of thirst. The treatment is only of use in *simple* exudation.

Klax (*loc. cit.*) considers the quantity of exudation no indication for puncture except when mechanical pressure causes a scarcity of air in the lungs. This point alluded to by Klax is of importance, and it will be found that so long as the tympanitic note of Skoda is present there is no compression of lung, and the advisability of removing the fluid may be considered leisurely on other grounds; but in proportion as it is replaced, at first by a tubular note and then complete dulness, the reason for interference becomes increasingly urgent.

10. Treatment of muscular atrophy after pleurisy.

Dr. Desplats, of Lille (*Bull. et Mém. de la Soc. des Hôpitaux, April 22*), refers to the muscular atrophy which often occurs rapidly in pleurisy, causing deformities of the skeleton and even pulmonary tuberculosis. Preventive treatment consists of surgical treatment of the effusion, general and local stimulants, faradisation, compressed air, and respiratory gymnastics. In a notice of this communication in the *Lancet*, May 9, 1885, the cause of this atrophy is referred to as a direct influence of abnormal excitations of the centripetal nerve fibres distributed to the inflamed parts upon the motor cells controlling muscular nutrition in those parts. Perhaps the chief cause of the muscular atrophy to be observed in pleurisy is the disuse of the affected muscles, which the exercises alluded to tend to rectify.

11. Pyridin in asthma.

Rosenbluth (*Lancet, Aug. 15, 1885*) publishes in the *Vratch* the results of observations on the use of *pyridin in asthma*. Pyridin is a triamine obtained by the dry distillation of various organic substances, and was first described by Anderson in 1851, and subsequently made the basis of therapeutical researches by Boche-fontaine (1883). It is a transparent, strongly smelling liquid, which acts on the central nervous system and the respiration, but not on the heart. The author tried the remedy in Paris on fourteen asthmatics, in five of whom there was cardiac mischief with dropsy. These five were considerably relieved. Three patients with nervous asthma were cured in from eight to fifteen days. In one case, which was complicated with chronic bronchitis, the

attacks also ceased. In three cases of asthma with emphysema, and also in one case of nervous asthma, which had lasted from childhood, the remedy produced marked improvement. In only one case had its use to be stopped because it produced giddiness and vomiting. The way to use it is to pour four or five grammes (about a fluid drachm) into a plate and set it in a small room to evaporate, the patient remaining in the room an hour and a half three times a day.

Germain Sée considers (*Gazette Hebdomadaire de Médecine et de Chirurgie*, June 5, 1885) iodine as the only curative treatment for all forms of asthma, but pyridin will be found of service when iodism occurs. This drug he regards as of more permanent effect than hypodermic morphia. In true nervous asthma it often stops the attacks, while if there be marked pulmonary lesions its use must be continued for over eight or ten days; in cardiac asthma it frequently checks the paroxysms of oppression.

12. Remedies for asthma.

Dr. Thorowgood (*Med. Press and Circ.*, Oct. 22, 1884, p. 348), besides chloroform, amyl nitrite, and nitre paper fumes, recommends the use of iodide of ethyl in asthma, six or eight drops on lint for inhalation. He finds this remedy especially useful in bronchitic asthma, the dyspnœa of which is often aggravated by nitre fumes. Dr. Thorowgood also recommends the iodide in the dyspnœa of fibroid phthisis and of old-standing bronchitis. Internally, he speaks well of *caffeine*, so-called citrate, one to five grains in warm coffee.

13. Bronchial asthma.

The following prints are alluded to in a report of a discussion on respiratory (so-called bronchial) asthma, in which the following took part: H. Cursdunann, Hamburg; Riegel, Bonn; Donders, Utrecht; A. Fraenkel, Berlin; B. Feaenkel, Berlin; Hecker, Johannisberg; M. Schmidt, Frankfurt-am-Maine; Lazarus Ungar, Bonn; and on a paper by G. v. Liebig, "The Treatment of Asthma by the Pneumatic Chamber." (*Bericht ü. die Verhandl. f. innere Med., Wiesbaden, April 8—11; Beilage z. Centralbl. f. klin. Med.*, 1885, No. 20.) The treatment consists of that during the attack and of that during the interval. The former includes the narcotics, morphia, and chloral, inhalation of stramonium hyoscyamus, saltpetre fumes, &c. A few cases are successfully treated by emetics. Nasal asthma, and perhaps hay asthma, may be successfully treated by cucain. Of the general remedies to be applied during the intervals pot. iod. in the exudative bronchiolitis variety (a form characterised by the presence in the sputum of lenticular crystals and remarkable spirals,

consisting of a straight clear axial fibre with a spiral fibre curled about it, which have been thought to indicate a peculiar inflammation of the bronchioles—bronchiolitis) is naturally to be tried, though it by no means always modifies the disease. The surgical treatment of the nasal mucous membrane (galvano-cautery to inf. turb-bones, *vide Year-Book*, 1884, p. 284) has gained undoubted success in suitable cases. In some cases the breathing of compressed air in the pneumatic chamber is attended by distinct amelioration of the difficulty of breathing, and a permanent relief, which von Liebig attributes to dilatation of the lumen of the bronchioles. (John Priestly, abstract in *Med. Chronicle*, July, 1885.)

Rodet (*Jour. de Médecine de Paris*, No. 25, 1884) recommends subcutaneous injections of morphia during paroxysm, with inhalation of twelve drops of iodide of ethyl. This, he says, gives almost immediate relief. There can be little doubt that morphia is much too freely used to subdue the paroxysms of asthma, and that, as by the employment of the same drug in an allied disease, neuralgia, the tone of the nervous system becomes lowered, the secretions disordered, the digestion damaged, and the attacks occur with increasing frequency. The danger of morphia craving becoming established, and the risk of an over-dose being administered, have also to be borne in mind. The remedy is, unfortunately, usually the most ready to hand, but although at times quite necessary, it should not be hastily commenced with.

14. Pneumonia treated by intra-parenchymatous injections.

Lépine (*L'Union Médicale*, Aug. 22) recommends that an injection of a few cubic centimètres of a very weak aqueous solution of corrosive sublimate be made into the hepatised lung on the third or fourth day of the disease, in three or four places equidistant, a few centimètres from one another, and preferably at the periphery of the lesion, with a view of preventing the extension of the disease. The following phenomena are observed :—(1) At the seat of injection an immediate diminution of the crepitant râles and tubular breath sounds, which are in part replaced by respiratory silence and some larger râles ; (2) sometimes, later, a transient exacerbation of the temperature of body ; (3) the next day, a great improvement in the general condition, and notably a precocious defervescence ; and (4) a resolution which, to judge by the persistence of the “souffle,” especially in the hepatised parts that have not been treated, takes place very much earlier than would have been the case under ordinary circumstances. As to the relative innocuousness of the intra-pulmonary injections M. Lépine

employs the doses of 20 to 25 cubic centimètres of 1-in-40,000 solution of bichloride of mercury, being careful not to penetrate the lung more than three to four centimètres. M. Lépine states that he has not lost a single patient, and has not had one accident. The only inconvenience is the pain, but this is not great, and may be still further relieved by adding morphia to the solution. After the introduction of the sharp needle, and before the syringe is fitted on, a few drops of blood are allowed to escape; the injection must not be delayed, or the needle will become plugged. Whilst it is most unlikely that so dilute a solution can have any therapeutic influence when injected into a parenchymatous organ, it is instructive to note, as an instance of the tolerance of the lung to injury, that beyond a little extra suffering, no further harm followed the treatment in M. Lépine's cases.

15. Quinine in pneumonia.

Dr. Suckling calls attention (*British Medical Journal*, June 20, 1885) to a second 100 cases of pneumonia, treated by quinine. He considers that he has aborted the disease in twelve cases. In a recorded case, a man, aged 75, was seen on the day of the rigor, with fine crepitation, dyspnoea; resp., 36; temp., 104° F., &c. Ordered 10 grains quinine to be repeated every six hours. Next day temp. was normal, crepitation diminished, and there was no sign of consolidation. Vomiting sometimes occurs after large doses of quinine, but that is the only ill result. Dr. Suckling does not give quinine to children. Dr. Suckling considers quinine and alcohol our sheet anchors in pneumonia.

Dr. James Myrtle writes (*British Medical Journal*, July 4, 1885), giving two cases in which he used it in children, aged five, in doses of 1 grain and $\frac{3}{4}$ grain, in combination with 5 grains salicylate of soda, with good result.

Dr. Atkinson cites (*Practitioner*, Oct., 1885) Mr. Corbett as having obtained highly satisfactory results from the administration to adults of 2 grains of quinine every two, three, or four hours, according to the severity of the case, combined with hydrobromic acid, and if there is delirium, a few drops of tincture of digitalis. When much lithic deposit in urine, he alternates this with citrate of potassium.

In addition to the above, Mr. Gason records (*Medical Times and Gazette*, June, 1885, p. 741) two cases in which the administration of quinine resulted in rapid recovery.

16. Jaborandi in pneumonia.

Dr. J. W. Brown (*Journal of the American Medical Association*, March 7, 1885) remarks on the frequency and gravity of pneumonia among the dwellers in elevated regions (7,000 to 10,000

feet above the sea-level). He relates four cases treated at their commencement with jaborandi, and attributes the speedy recovery to the profuse perspiration which ensued.

Mollière (*Lyon Médical*, March 8, 1885) records a case of double pneumonia supervening upon acute dysentery and nephritis, in a young man, treated with subcutaneous injections of pilocarpine, 1 centigramme, three injections being employed in three days. Under the influence of salivation and profuse sweats thus induced, the dyspnœa subsided.

17. Treatment of phthisis.

Dr. Hermann Weber, in the Croonian Lectures (*British Medical Journal*, March 14 to April 11), divides the treatment of phthisis into (1) Preventive ; (2) Curative ; (3) Climatic.

Preventive Treatment.—Attention is called to the possibility of infection by inoculation. Disinfection of secretions, clothing, bedding, &c., avoidance of stirring up dust in the sick-room, and abundant ventilation, are enjoined. If practicable, avoidance of marriage by consumptive persons, and failing this, attention in the child to the hereditary tendency, which must be combated, by feeding either by hand or a healthy wet nurse, and by making milk the staple article of food for six years. The child should not be allowed to sleep in the same room with the consumptive parent. Plenty of fresh air and outdoor exercise should be afforded, and mental training may go hand in hand with physical, but with the avoidance of confined rooms and sedentary habits. No indoor occupation should be chosen, but a business which avoids dust and tainted air, and entails outdoor life. In acquired predispositions to phthisis, the same rules obtain, but are not usually required for the whole life, but only for a time:

Tendency to respiratory mucous catarrh must be combated “by hardening and by accustoming the delicate person, clothed in flannel, but not loaded with clothes, to constant exposure to the air in almost all weathers, by walking, driving, riding in open carriages ; by abundant, though judicious, ventilation of the rooms, by regular sponging of the skin, at first tepid, perhaps with vinegar, afterwards cold, and by friction ; by strengthening the whole system by nutritious food, and frequent and prolonged changes to the seaside, or the mountains, according to the nature of the constitution.” The imperfect development of the thorax specially requires pulmonary gymnastics, deep inspirations alternating with complete expirations ; breathing with raised arms, in order to allow free entrance of air into the apex ; and judicious climbing of hills and mountains.

Curative Treatment.—In reference to diet, Dr. Weber thinks

there is more often a distaste for food than is commonly supposed. He finds patients will eat better in company, encouraged by the example of other patients. Food should be in frequent small meals. It is possible that potash salts are requisite for the bacillus tuberculosis, and in that case food containing them in excess should be taken sparingly. Milk is the best food, but it is necessary to recollect the dangerous substances and poisons which can be introduced by it, fever poisons, tubercle bacillus, &c. Milk should, therefore, always be boiled. Apollinaris, seltzer, or Bilin waters, barley-water, small quantities of coffee, tea, or cocoa, may be added. Rum or cognac sometimes aid digestibility of milk. Fats are recommended. As to alcohol, Dr. Weber is convinced of its necessity, especially in the febrile stages. It acts as a respiratory food, and limits tissue waste. It is useful especially when a fair quantity can be taken without symptoms, and a sense of comfort, increased strength, appetite, and digestion, are induced. If it causes arterial throbbing, headache, listlessness, flushing, great excitement, or loss of appetite, it is unsuitable.

As to air and ventilation, Dr. Weber considers that there is too great timidity both on the part of the public and the profession. "Patients affected with chronic consumption, without, or with only moderate and partial pyrexia, ought to spend the greater part of most days in the open air, and ought not to be deterred by a little rain or mud or low temperature, or by the fact that they begin to cough when they come out of the close house into the open air." As to indoor arrangements, sitting and bed-rooms should be exposed to the sun; 2,000 cubic inches space per head is desirable; air ought to be frequently renewed; the temperature should never exceed 62° F.; an open fire is the best means of warming, and gas should be entirely excluded. A long stay in bed is to be avoided, unless the weakness be extreme, or the phthisis acute, with much fever.

Under the head of exercise, Dr. Weber considers climbing especially beneficial, as it calls the circulatory and respiratory systems fully into play. Riding, tricycling, and "pulmonary gymnastics"—*i.e.* a methodical series of full inspirations in pure air, followed after a pause by full expirations. Rowing and massage are also well spoken off.

Dr. Weber claims great attention for the skin. In great weakness, dry rubbing of one part of the body after another; then rubbing the chest with a moist towel, followed by dry rubbing; later on a very rapid sponging with tepid, and again later with cold water, followed by a short return into bed, and a light warm breakfast. The author recommends perusal of article Skin in "The Book of Health," for sound hints on bathing. Woollen

garments are insisted on, but overweight of clothes is to be avoided during exercise.

In reference to climate, the author claims for the High Alps more sunshine, dry air, and a cold which is easily tolerable by invalids because it is quite dry. These conditions are inimical to microbes, arrest putrefaction, lead to loss of heat and are so anti-phlogistic, dry up sores, diminish expectoration and sweats, increase the pulmonary circulation, and stimulate the thoracic respiratory movements.

The conditions considered unsuitable for altitude climates are :—

(1) Consumptive patients of the “erethic” constitution, whether early or advanced. (2) Phthisis in a very advanced stage. (3) Phthisis complicated with emphysema. (4) Phthisis with albuminuria. (5) Phthisis with heart disease. (6) Phthisis with ulceration of larynx. (7) Phthisis with rapid progress and constant pyrexia. (8) Phthisis with great loss of substance. (9) Phthisis with considerable empyema. (10) Phthisis in persons who cannot sleep or eat in high elevations, or who feel constantly cold. But some of these conditions are removable.

18. Home treatment of phthisis.

Dr. Shattuck, of Boston (*New York Med. Jour.*, Sept. 26, 1885), considers two classes of patients ; first, those who cannot get away at any cost ; and, secondly, those who, whatever their means, had better stay at home and die among their friends, rather than have their last hours embittered by absence from home and the discomforts of foreign life.

As to diet, the patient should take the maximum amount of food *which he can digest*. As to choice of food, within certain limits, it is well to trust his instincts. Six or seven light meals are better than two or three heavy ones. Alcohol in moderation is indicated in those cases. The author has no experience of “forced feeding,” according to Debove’s method. Tact is required, —some people require to be frightened, others to have their fears allayed. The prognosis should always be as favourable as possible, at least to the patient. For dress, wool and silk next the skin from neck to toes ; clothing not too heavy ; a frequent change of stockings.

Fresh and pure air and sunshine are imperative, both in the house and out. Apartments should face the south, and proper attention should be paid to the ventilation, &c., of the bedroom. Driving out of doors in an open trap in suitable weather is recommended. Fatigue from exercise, if it passes off in an hour or so, is healthy, but if it continues it is a sign of over-exertion.

Night air is not more dangerous than other air, unless the patient's nervous susceptibility is greater at night-time. Out-of-door occupation is ordered. A sun and fresh air bath may be taken by the patient sitting on a chair or mattress out of doors in a little shed facing the south, and sufficiently deep to keep off the wind. As many blankets are allowed as are desired. The sun has more penetrating power than any other warmth, and is well tolerated on trial. Respiratory gymnastics are called for. A proper action of the skin is required, and is best procured by bathing. A warm bath should either be followed by a cold douche, or exposure to draught should be avoided for some time. The temperature should depend upon the patient's reactionary power, and a cup of hot *bouillon* before the bath is recommended.

Medicinal treatment is general or curative, and symptomatic or palliative. Cod-liver oil should be avoided if the tongue is coated and the appetite poor, and especially if there be fever. Fever requires fresh air, often rest, quinine or other antipyretic, and a bitter stomachic, with a laxative if necessary. Glycerine \bar{z} ss. to \bar{z} ii. daily is recommended by Jaccoud, when there is fever, in place of ol. Morrhuæ. Iron, if the tongue is not coated and the bowels not sluggish, but arsenic may often be continued for long periods in doses as large as are perfectly well borne.

As to symptomatic treatment. Cough—its absence indicates the door either of recovery or death. It should not always be stopped. If followed by expectoration, it is useful, except when it keeps the patient awake at night. If irritative, it wears out, and should be checked. The author has found chloroform water of use. Opiates are to be avoided. An ammonia blister over the seat of the disease is often useful. For thoracic pain counter-irritation is indicated. When localised, dry cupping is useful.

In night sweats, aromatic sulphuric acid, oxide of zinc, ergot, atropia, quinine, Dover's powder, dusting powders, sponging with acids, alkalies, alcohol, tinct. belladonnæ may all be tried. The Victoria Park pill of morphia and atropine is well spoken of, and the author has used picrotoxin with success in two rebellious cases. Diarrhœa should be relieved, astringents and opium being indicated, while nervous irritability is best combated by a plentiful supply of cool fresh air.

As to fever, Jaccoud's best results are by large doses of quinine in inflammatory fever (the hydrobromate if hypodermically), and for the fever of absorption, salicylic acid by the mouth or salicylate of soda hypodermically.

The author does not lean to intra-pulmonary injections nor the free incision and drainage of pulmonary cavities.

19. The ocean in phthisis.

Dr. Coupland Taylor (*Medical Chronicle*, Aug., 1885) writes on the "The Ocean as a Health Resort in Phthisis."

He argues for careful selection of cases, and asserts that it is for those in the early stages of the disease that it is beneficial. The most favourable time for starting on a voyage to Australia or New Zealand is September. The tropical region is said to be depressing, even those in perfect health losing weight, but a favourable rebound takes place in the southern temperate regions. The obvious disadvantages of sea-sickness, close hot cabins, damp sea fogs, draughty saloons, &c., are not to be ignored in considering what a patient will have to endure. The article, generally, is a caution against the indiscriminate prescription of sea voyages for phthisical patients.

20. Climatic treatment of phthisis.

K. Chodounsky gives the following (*Allg. Wiener Med. Zeitung*, May 19, 1885).

(1) Contra-indications to *all* climatic therapy:—(a) High fever. (b) Great active extension of tuberculous disease. (c) Debility sufficient to keep the patient in bed. (d) Peritoneal and intestinal complications.

(2) Contra-indications to elevated regions:—(a) Erethism. (b) Advanced anæmia. (c) Changes due to advanced life, especially of vessel walls. (d) An habitually accelerated pulse. (e) Diminished inspiratory power. (f) All fevers. (g) Pneumonic tuberculosis in all stages. (h) Chronic miliary tuberculosis with frequent exacerbations. (i) Laryngeal catarrh. (j) Stage of decay, unless under specially favourable circumstances. (k) Complications with cardiac and vascular disease. (l) Renal mischief. (m) Neuralgia.

(3) Elevated climate indicated for hæmorrhagic cases as follows:—(a) Initial hæmoptysis. (b) Slight passive hæmoptysis. (c) Congestive hæmoptysis after discontinuance of fever, and an interval of eight weeks since last hæmorrhage. (d) Hæmorrhagic cases with cavities, if the decay and fever have ceased and no hæmorrhage has occurred for eight weeks.

(4) Indications for a "plain" climate:—(a) Temperature not above 104° F. (b) Tuberculosis in stage of decay, with moderate characteristic symptoms. (c) Hæmorrhagic cases with cavities and moderate symptoms, and an eight weeks' interval since last hæmorrhage. (d) Congestive hæmoptysis. (e) Laryngeal catarrh. (f) Heart, vascular, and nervous complications, for

which the elevated regions are contra-indicated. (g) Cases in which irritability of the air-passages exists. (h) Cases with diminished power of inspiration and an habitually accelerated pulse. (i) Advanced anæmia. (j) Old age.

21. Bacteriotherapy in phthisis.

According to the *British Medical Journal*, Aug. 29, 1885, **Arnaldo Cantani** has successfully treated a case of tuberculosis in a woman, aged 42, with a large tuberculous cavity in the upper lobe of the left lung, by giving her daily spray inhalations of a rich culture of *Bacterium termo* in gelatine, diluted with meat broth, by means of a spray producer. The downward progress was checked, and the patient improved rapidly and wonderfully, the body weight increasing and the symptoms entirely disappearing. The treatment is based on the theory the *Bacterium termo* as a harmless organism prevents *Bacillus tuberculosis* from flourishing. All other treatment was stopped when this began.

22. Inhalations in phthisis.

Dr. Renzi concludes as follows:—(1) Inhalations of iodine and iodoform with spirits of turpentine (1 to 25, a few drops of these placed in a respirator) stimulate the general nutrition, increase the inspiratory and expiratory pressure, and relieve the condition of the lungs. Fever, diarrhœa, and night sweats, will not, however, be modified. Iodoform with spirits of turpentine will especially ease both cough and expectoration. (2) Inhalations of hydro-sulphuric acid and sulphurous acid have a similar effect; they raise the general strength, improve nutrition, and increase micturition. Inhalations of hydro-sulphuric acid have a general effect on respiration, diminishing in number the respiratory movements, which become easy, quieter, and deeper, and on the cough, which becomes less troublesome and violent, and may even entirely disappear. Fever, diarrhœa, and perspiration, however, will not be influenced. (3) Until further experience, **Dr. Renzi** considers the inhalations with spirits of turpentine and hydro-sulphuric acid the most beneficial. (*London Medical Record*, Aug., 1880, quotes from *Revista Clinica e. Terapeutica*, quotes from *Der Fortschritt*, July 20, No. 14.)

Dr. J. E. Morgan (*British Medical Journal*, May 23, 1885) refers to the singular exemption of the Western and North-Western Highlanders from phthisis, which he attributes to the inhalation of the peat-smoke that constantly fills their chimneyless cabins, and of the antiseptic ingredients tar, creasote, and tannin, contained therein, together with various volatile oils and resins, black unctuous peat being particularly rich in these substances.

Miquel recommends (*Bull. Gén. de Thérap.*) a spray of corrosive

sublimate, 16 grains; Sydenham's laudanum, 5 drachms; distilled water, 2 quarts. Le Fort (*ibid.*) uses camphor, 8 oz.; tinct. of iodine, pitch, each 30 drachms; Hoffman's anodyne, 1 oz., in a wide-mouthed bottle, and the vapour frequently inhaled. (*New York Medical Journal*, June 13, 1885.)

As a germicide in phthisis, according to *Nouveaux Remèdes*, nothing is better than $2\frac{1}{2}$ drachms of commercial hydrofluoric acid, diluted with its own weight of water, and evaporated from a leaden vessel over a water bath into a cabinet in which the patient sits. Inhalation should last an hour, and be repeated daily. (*New York Medical Journal*, Sept. 19, 1885.)

23. Injections into lung in phthisis.

Dr. Wendall C. Phillips (*New York Medical Journal*, June 28, 1885) records two cases of phthisis, in which intra-pulmonary injections of iodine gave great relief from coughing and dyspnoea. The injections are made by thrusting a hypodermic needle, $1\frac{1}{2}$ inches deep, through the first, second, or third interspace, in the axillary region; the arm being held at right angles from the body, 10 drops of dilute Lugol's iodine solution being used, and repeated, if requisite, at intervals of a few days.

Dr. A. H. Smith records a case in which marked improvement occurred after injections of Lugol's solution, diluted with five times its bulk of water, 5 minims being used, and increased to 8 or 9, the process being repeated every three hours.

Dr. Beverley Robinson (*Philadelphia Medical Times*, Nov. 15, 1884) had performed about twenty of these injections in November last year, and considers them very efficacious in conjunction with other measures—viz., super-alimentation—i.e., the administration of a pint of milk, three raw eggs, an ounce of Reed and Carnick's beef peptonoids by a soft œsophageal tube, repeated twice or three times daily, and also the use of antiseptic inhalations—viz., the dry vapour of creasote, iodine, carbolic acid, turpentine, eucalyptus, or benzoin.

24. Antipyrin in phthisis.

Dr. J. Holland (*Practitioner*, May, 1885) records twenty cases, including one of rheumatic fever, one of tonsillitis, one of febrile disturbance consequent on a scald, two of malarial fever, two of pleurisy, and the rest of phthisis, in which the fever was successfully combated by administration of antipyrin, in some cases after other antipyretics had failed. It was given in doses ranging from 10 to 20 grains every four or five hours. The results were more satisfactory in the phthisis and pleurisy than in the rheumatic fever and the scald cases.

25. Terpine in the treatment of phthisis.

Terpine is maintained by Germain Sée (*Bulletin de l'Académie Médecine*, No. 30) to be a powerful agent in modifying the respiratory mucous membrane, and in diminishing morbid secretions. It is said to diminish, and even to cause to disappear altogether, the purulent secretion of catarrhal forms of phthisis. The mucopurulent secretion that proceeds from the bronchial tubes irritated by tubercles, and that which comes from the walls of pulmonary cavities, are the indications for the use of terpine whenever these secretions are sufficiently abundant to exhaust the patient. Terpine is useful in the hæmoptysis of incipient tuberculosis—that is, before the development of cavities with aneurisms in their walls. In the treatment of catarrhal pneumonia and chronic bronchitis, terpine constitutes the best means of lessening the bronchial hyper-secretion. On account of its perfect harmlessness and easy digestibility it has advantages over creasote. The best method of administration is in the form of a pill, or as an alcoholic preparation, dose ; 20 to 60 centigrammes.

26. Enforced feeding in phthisis.

Professor Staerk (*Wiener Med. Blätter*, Dec. 25, 1885) introduces, by means of a syringe and catheter, which is passed only to the level of the larynx, a mixture of finely triturated ham with milk. This method, he says, is better borne than meat powders, introduced by the stomach pump. Twenty per cent. cocaine solution may be used if necessary to render the fauces tolerant.

Dr. Shingleton Smith speaks favourably (*British Medical Journal*, Nov. 8, 1884) of iodoform administered from 1 increased up to 5-grain doses every four hours. Drs. Ransome and Dreschfeld have also tried the drug in phthisis and found it useful. (See *Year Book*, 1884, p. 20).

27. Night sweats of phthisis.

Dr. Cauldwell, of New York (*New York Med. Journal*, Sept. 27, 1884, p. 341), made a series of comparative experiments on different drugs.

Atropine often produces its unpleasant effects before a sufficient dose to check the sweats is exhibited ($\frac{1}{60}$ to $\frac{1}{20}$ of grain in 24 hours), and they often return on cessation of drug.

Ergotin failed completely, making considerable impression on sweating, but inducing nausea, colic, &c., in every case ; pills 3 to 8 grains, divided doses, in 24 hours.

Digitalis failed.

Aconite greatly modified sweats. It was free from unpleasant symptoms, but gradually lost power ; $\frac{1}{8}$ drop of tincture every hour or two from 10 a.m. till 10 p.m.

Paracoto bark acted with remarkable promptness in a number of cases ; failed in others. Constipates. Most satisfactory when diarrhoea and sweating were combined ; 20 to 40 drops t.d.s.

Salicin, eminently unreliable, and increased debility.

Oxide of zinc, in $\frac{1}{2}$ -drachm doses, showed but feeble power.

Picrotoxin in twenty cases ; in seventeen, sweats were entirely checked ; no disturbance of gastro-intestinal tract. Initial dose $\frac{1}{150}$ gr., increased to $\frac{1}{40}$ gr., given at bedtime, generally controlled sweating for twenty-four hours. If not, dose repeated at midnight.

Dr. S. West (*St. Bart.'s Hospital Report*, 1884, p. 125) finds that the administration by the mouth of $\frac{1}{12}$ (gradually increased to $\frac{1}{6}$) gr. of nitrate of pilocarpine frequently controls the night sweats of phthisis, sometimes producing, and sometimes not, an initial perspiration. He concludes that it deserves trial where atropia is contra-indicated or is not tolerated.

28. External application of chloral in night sweats.

In order to relieve the distressing night sweats in phthisis and other diseases, Nicolai (*Lancet*, July 4, 1885) strongly recommends a lotion made by dissolving two drachms of hydrate of chloral in a pint of brandy and water in equal proportions. With this the patient is to be sponged. He finds this method very valuable in children, whether they have phthisis or not.

29. Laryngeal phthisis.

Dr. G. M. Lefferts reports excellent results from the use of cocaine spray in diminishing the difficulty of swallowing and distressed breathing in tubercular laryngitis. (*Philadelphia Med. News*, Nov. 29, 1884.)

30. Pulmonary surgery.

M. Truc (*Essai sur la Chirurgie du Poumon*, Paris, 1885), in an interesting essay of 160 pages, has given an account of all the cases of pulmonary surgery recorded, appending to each group of cases comments of his own.

(1) Partial extirpation of the lung has been performed in the human subject eight times for disease ; in one case only with success, a small sarcomatous tumour having been removed from a young woman by Kronlein in 1884 (*Berl. klin. Woch.* 1884, No. 9, p. 129).

In animals :—

Extirpation of the right lung has been done 23 times with 12 successes.

„	left	„	34	„	18	„
„	both apices	„	3	„	3	„
„	middle lobe	„	1	„	1	„
„	inferior lobe	„	1	„	1	„

(2) Incision and drainage of the lung :—(a) For abscess and bronchiectasis, nineteen times ; amelioration or partial cure, four ; cure, six ; death, eight. (b) Tubercular cavities, thirteen times ; fifty per cent. mortality, ameliorations ? ; no cures ; (c) Gangrene, thirteen times ; amelioration or partial cure, four ; complete cure, three ; death, eight. (d) Hydatid cysts, two operations, both successful. (e) Foreign bodies, one operation, unsuccessful.

The chief conclusions arrived at by M. Truc from a consideration of recorded cases are as follows :—

(1) Pneumectomy, partial or complete, practised antiseptically, is compatible with life in animals.

(2) In the human subject with tuberculosis the results are deplorable ; for circumscribed cancer useful, and not very dangerous.

(3) Pneumotomy may be advantageously adopted in well-defined *abscess*, in *circumscribed gangrene*, in *bronchiectasis* (bronchite putride) when localised, in rare cases of *localised tubercular cavities* with grave septic incidents, in *hydatid cysts*, in *foreign bodies* causing serious symptoms and fairly localised.

(4) Exploratory punctures are useful, and generally safe.

(5) Pleuritic adhesions, although favourable, are not essential for pneumotomy.

(6) The *thermo-cautère* is to be preferred to the bistoury in the operation.

(7) Resection of the rib should be generally practised.

Whilst intra-parenchymatous injections, both in animals and man, have proved but little harmful, in tubercular cases they neither aggravate the local conditions nor arrest the progress of the disease. They have in certain cases produced a slight amendment of symptoms.

DISEASES OF THE NERVOUS SYSTEM.

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1. The gynæcological treatment of hysteria and other neuroses.

The frequent co-existence of uterine trouble with various forms of neurotic disturbance, whether in the psychical or in the physical sphere, has furnished themes to many a controversy. As the word "hysteria" indicates, the complex neurosis called by this name, was once considered as a disease of the uterus in the strict sense. With increased knowledge of the nervous system and of the subtle mechanisms by which its functions are carried on, the seat of that malady was gradually transferred to the highest centres; yet there is no doubt that in some cases there is a causal nexus between the cerebro-spinal and uterine phenomena. Abnormal innervation, we know, will give rise to visceral symptoms, just as it brings about motor and sensory disturbances; and so the uterine functions may be deranged because the nervous influence which presides over them is exercised in an irregular manner.

But we know also that all nervous action is reflex. Nerve-cells store up energy which can be liberated only by an exciting cause in the shape of an impulse received from some end-organ. So whenever we speak of nervous symptoms as due to some peripheral irritation, there are two possible factors which must not be lost sight of in our explanation of the phenomena. Either the irritation is of such a nature or intensity as to elicit abnormal discharges from normal nerve centres; or, being perhaps but slightly altered from the normal healthy centripetal influx, it impinges upon nerve centres in a state of unstable equilibrium, and thus acts as the exciting cause of a true neurosis.

The importance of these considerations becomes obvious when we are called upon to discuss the relationship between uterine and

nervous trouble in any given case ; or to base therapeutical indications, and frame a prognosis upon this relationship. For it is obvious that, in order to expect such a cure by the removal of a diseased organ, we must not only be certain that it is the starting-point of an irritation, but that the disturbed equilibrium of the nerve centres is not so deeply rooted as to give rise to abnormal discharge of nerve force, even in the absence of an abnormal stimulus. **Dr. Paul Flechsig**, Professor of Psychiatry to the University of Leipzig, has contributed an important paper on the present subject (*Neurologisches Centralblatt*, 1884, pp. 433, 457). He relates very fully three cases. In the first one of hysteria major with well-marked mental symptoms, oöphorectomy was followed with complete recovery, which had maintained itself up to the time of publication, fourteen months after the operation. The indication for surgical interference in this case, was the existence of contractive adherences involving the left ovary, and caused by a previous attack of perimetritis, and the local symptoms were sufficient to warrant it, apart from any hope of allaying the neurosis proper. The second case was that of a woman, aged forty-three, who had a very large fibroma. She was hereditarily predisposed to nervous disorders, and had twice been an inmate of lunatic asylums. At the age of forty a uterine tumour made its appearance, and two years afterwards her mind gave way again. Her bodily health speedily broke down, and in September, 1883, the removal of the uterus was decided upon. She rapidly recovered from the operation, but only very gradually gave signs of mental improvement. In April, 1884, she returned to her home, where her condition remained satisfactory—at least up to date of publication, viz., six months. In the third case incision and dilatation of a contracted cervix delivered a young patient from hystero-epileptic fits. The cure had maintained itself eight months after publication. **Dr. H. Bircher** (*Correspondenzblatt für Schweizer Aerzte*, Nos. 36 and 38, 1884) relates three cases of ovarian neuralgia, followed with hysteria, melancholia, suicidal tendencies, &c., in which he removed the ovaries with more or less success. The patients were young, their ages ranging between nineteen and twenty-four years ; and the morbid condition found was cystic degeneration of the organs removed. In the first case the result was good, and the cure still persisted after three years. In the second some improvement only was noticeable. In the third there was considerable amelioration. Another case is related by **Dr. Walton** (*Journal of Mental and Nervous Disease*, p. 424, 1884) in which the ovaries, not enlarged, but “full of small cysts,” were successfully removed. The patient, aged twenty-nine,

besides severe symptoms characteristic of ovario-uterine disorder, had for several years presented well-marked hysterical manifestations. The element of time is unfortunately wanting in this, as in many similar observations ; but it is obvious that if, on the one hand, relapses are possible after an apparent cure, so, on the other hand, improvement may take place slowly, and for a long time after the operation ; we must assume in such cases, the peripheral irritation being removed, the nerve centres gradually recover their equilibrium. In the case just mentioned, four months after the operation there was considerable diminution of the nervous symptoms, with hope of “a still greater improvement in the course of time.”

In some of the successful cases hitherto published there is fair evidence to show that the extirpation of diseased organs may lead to a more or less complete recovery of a neurosis. It has been suggested that the large quantity of anæsthetics administered may have set up certain beneficial changes in the nerve centres. But this is only a theory ; and it will be easy to prove or disprove it by experiment. Another objection raised is the well-known fact that sham operations have occasionally relieved well-marked hysterical symptoms. Such a result has been obtained in a case recently published by Dr. Bianchi (*Archivi Italiani per le Malattie Nervose*, 1884, xxi., 426), in which hystero-epileptoid attacks, with cephalic and ovarial pains, and psychical depression and irritability, disappeared after a simulated “cauterisation of the ovaries,” and an appropriate moral after-treatment. It is to be remarked, however, that in this case there was no sign of any disease of those organs, and that the relief was complete immediately after the “operation,” sudden as one would expect the effect of a powerful psychical impression to be, whilst in the other cases recovery was gradual, as if due to a process of re-equilibration among the nerve centres previously disturbed by undue peripheral irritations. The whole subject requires methodical investigation, and we refer the reader to some excellent remarks on Battey's operation by Dr. Williams in the “Year-Book for 1884,” pp. 218-220, and to the monograph by Hegar. (See ref. p. 41. See also criticisms by Professor Schüle, *Neurologisches Centralblatt*, No. 5, 1885, p. 112.)

2. On the administration of bromide of potassium in neuroses, and particularly in epilepsy.

Professor Kussner, of Halle, recommends (*Deutsche Medicinische Wochenschrift*, 1884, No. 49) the following method: 8 to 12 grammes (2 to 3 drachms) of bromide are dissolved in 1 or 2 pints of water, and taken during the course of twenty-four hours.

After this quantity has been taken daily during several weeks, it is given for some months every other day, then every third day, and so on. The author rightly insists upon the necessity in epilepsy to persevere with the treatment during a very long time, several years. When a rapid and powerful effect is required, the drug is to be given in repeated doses of several grammes. [In experiments upon myself I have taken $\frac{1}{2}$ oz. doses without ill results, and have had occasion to prescribe it in large quantities with good effect. The dosage (5 to 30 grains) indicated in the British Pharmacopœia has unfortunately not been altered in the new edition. Children tolerate proportional quantities very well, and take it readily in milk. The main point in the treatment of epilepsy is to push the drug up to the point necessary to produce a marked diminution of the number of fits, and to keep to it for a length of time. The simultaneous use of arsenic to diminish the rash, of strychnia to relieve the spinal depression, and of tonics and other measures to counteract the malnutrition are indicated. Strychnia is not antagonistic to bromide *quoad* an anti-epileptic.]

3. Iodide of potassium in nerve-syphilis.

Dr. Seguin (*Archives of Medicine*, vol. xii., p. 184) calls attention to what he calls the "American method" of giving iodide of potassium in very large doses for the later lesions of syphilis, and especially those affecting the nervous system. The quantities exhibited are from 150 to 600 grains a day, which are to be taken, on an empty stomach, largely diluted with some slightly alkaline water. The following are the cases where large doses are indicated. In ordinary syphilitic disease of the nervous centres; in syphilitic coma or stupor, especially when choked disk or convulsions are present; in the stage preceding an actual attack of syphilitic hemiplegia; in syphilitic cephalalgia, two doses of 60 grains each may be taken the first day, and every succeeding day this quantity increased by an additional dose of 60 grains for a week. Rapidly spreading ulcers and chronic or sub-acute syphilides are benefited by the very large doses indicated above. Though very likely to astonish the bulk of European practitioners, the advice given by such a high authority as Dr. Seguin of giving up groundless fears and attacking the disease with no sparing hand deserve to be followed, and the results carefully observed. In nerve-syphilis it is not enough to eradicate the diathesis in the course of time; we must prevent any "scarring" of the centres which leads to hopeless paralysis and other serious consequences. For this purpose it is necessary to act with energy and promptitude.

4. Hydrochlorate of cocaine in sea-sickness.

Dr. Otto (*Berliner Klinische Wochenschrift*, No. 43, 1885), who, as surgeon to one of the steamers of the line of Bremen to New York, has had a large experience, reports the satisfactory results obtained from the use of cocaine in sea-sickness. During the months of May to September he performed the double journey five times, and had nearly 7,000 passengers under his observation. He administered the drug in doses of $\frac{1}{4}$ to $\frac{1}{3}$ of a grain, dissolved in water (1 in 10) three times a day, with a small piece of ice. He believes that larger quantities do not have the same beneficial effect; and has not tried it with children. It is well to make patients keep to the horizontal position during the first day. The results (in a few cases negative) were definite. Arrest of the vomiting and of the nausea; quiet, refreshing sleep. Pregnant women seemed to be peculiarly amenable to this treatment. Cocaine is not a dangerous remedy, and may be safely taken in much larger doses than those prescribed for sea-sickness. Dr. Otto does not tell us whether sea-sickness can be prevented by taking the drug for a day or two previous to embarking, a point well worth investigating, with reference to the short sea passages which are productive of so much discomfort to travellers between England and neighbouring countries. But his results are encouraging enough to secure their being extensively put to the test. Dr. Manasseine states (*Berliner Klinische Wochenschrift*, August 31, 1885) that he made a voyage himself in order to test the drug, and, finding among his fellow-passengers a man and a woman who were especially prone to the malady, made the following experiment: After embarking he administered to each every two or three hours a teaspoonful of a solution containing $2\frac{1}{2}$ grains of muriate of cocaine in 5 ounces of distilled water, with the addition of a sufficient quantity of rectified spirits of wine. In spite of very rough weather for a period of forty-eight hours, both individuals escaped sickness for the first time in their lives. He also treated successfully a six-year-old child after it had begun to be sick, and a girl eighteen years of age, who had been sick for twenty-four hours before the cocaine was given. Her case being severe, she was given a double dose every half-hour, and the result is described as being "truly magical." She remained well during the rest of the voyage. Similar results followed in three milder cases. I think it justifiable to infer that in this drug we have a promising and harmless remedy against sea-sickness.

5. Treatment of sciatica by congelation.

Dr. Debone (*Progrès Médical*, No. 31, 1884) describes a method of treating sciatica by the spray of methyl-chloride, and the

refrigeration of the skin over the painful spots, especially over the point of emergence of the nerve from the sacro-sciatic foramen. The temperature of the parts is to be reduced to about 23°C. , and the spraying continued for a certain time, short of producing vesication. The author asserts that immediate relief follows this procedure, and not unfrequently a definitive cure is accomplished. **Dr. Sacré** (*Bulletin de l'Acad. Roy. de Belgique*, 1885, p. 117) relates a case of sciatic neuralgia instantaneously cured by means of the methyl-chloride spray. No doubt the efficacy of the method will be put to the test on a large scale, owing to its simplicity, and the frequency of the symptoms it is supposed to completely relieve.

In severe and obstinate cases **Dr. Pires** (*Boston Medical Journal*, May 28, 1885) makes issues with small pieces of solid caustic potash, so regulating the size that the slough will never exceed the size of a threepenny, or, at most, a sixpenny, piece. Such application gives a sharp gnawing or burning pain for about fifteen minutes, which then stops. The pain is not as great nor as continuous as that of the actual cautery. The pain of the sciatica generally ceases after the effect of the application, or if the complaint is of very long standing, invariably leaves by the time the scab comes off, which takes about a week or a fortnight, and sometimes has to be encouraged to separate by poultices.

It will be remembered that Trousseau recommended a similar procedure, inserting in the wound thus produced soluble pellets containing morphia.

6. A new method of treating locomotor ataxy.

I have elsewhere (*Brain* v., p. 135) given a short abstract of **Dr. Rumpf's** first account (*Neurologisches Centralblatt*, 1882) of his method of treating tabes. This consists in applying the induced current down the spine and legs by means of the wire brush. Anti-syphilitic remedies must, of course, be at the same time used internally, where the history points to previous infection. The author described fully two or three cases where the results had been truly gratifying; but the test of time and a wider experience were necessary to establish the value of the method. At the last German Medical Congress (Strasburg, September, 1885) he brought forward a series of twenty-four cases, which came under his observations; and it is to be hoped that his successes may be imitated by many others. Out of his list one patient only derived no permanent benefit. In the cases where the improvement was slight, it amounted in the one to a slight recovery of walking power; in another to the disappearance of pain and ataxia, whilst the optic atrophy progressed to complete blindness. Four cases were "cured"—i.e. all subjective and objective symptoms

disappeared, and have since remained in abeyance. In three other cases the diminished perception of pain was the only symptom that persisted. In five the severe symptoms gave way. Of the rest some could not be treated regularly; the others are improving, and still under treatment. The reader will find the general method of applying dry faradisation described in my "Medical Electricity." The strength of current used by Dr. Rumpf is such as to produce contractions of the flexors when applied over the median nerve at the side of the biceps tendon. The brush is to be passed down the back and along the extremities during ten minutes every day for some weeks. The effects of the treatment depend upon the excitation of the peripheral cutaneous nerves; it is a kind of counter irritation. In the discussion that followed the reading of the paper, much scepticism was manifested as to the possibility of obtaining any results where the nerve structures have undergone sclerotic changes. Still, the reputation of Dr. Rumpf as a neurologist, and the recognised hopelessness of the modes of treatment hitherto followed in tabes, are sure to induce many to give a fair trial to his new method.

7. Iodide of sodium and lithium in true angina pectoris.

At the last meeting of the French Association for the Advancement of Science, Professor Huchard (*Semaine Médicale*, 1885, p. 305), spoke of the distinction between true, or idiopathic, and false, or symptomatic, angina pectoris (Cf. his recent edition of Axenfeld's "Traité des Névroses," Paris, 1883). The former is essentially a vascular disease, with a tendency to progress to a fatal result. In all cases, however, the actual attack is due to vaso-constriction and increased arterial tension; hence the remarkable effects of nitrite of amyl in reducing the spasm. But in order to cure true angina, it is necessary to remove the cause; and this is to be found in the diseased condition of the vessels. During some years past the author has had twenty-five cases under his observation, of which fifteen were cured, and four greatly improved, by the persistent use of the iodide of sodium, or, perhaps, better still, of lithium. He administers the drug in quantities of 2 to 3 grammes (30 to 45 grains) daily. He insists upon the absolute necessity of perseverance in order to secure results; the treatment must be faithfully followed for eighteen months, two years, or even longer.

8. The treatment of compressive myelitis in Pott's disease.

Dr. Gibney (*New York Medical Record*, Oct. 24, 1885) believes

that the paraplegia of Pott's disease does, in the majority of cases, not arise from direct pressure on the cord, but from a local myelitis set up in the neighbourhood of the bony lesion. He has tried the various methods of treatment hitherto recommended, including repeated cauterisation, but with indifferent success only. He has found, however, that iodide of potassium in large doses exerts a very marked influence upon the inflammatory process, and in many cases leads to a speedy and complete cure of the paralytic complication. He relates several histories of patients who recovered, and gives full directions as to the mode of administration of the drug. Children, he insists, tolerate very large doses of iodide indeed; and he gives an instance where, so far from impairing the general nutrition, the use of the drug was attended with distinct gaining in weight. Dr. Gibney's method may be summed up as follows:

1. Secure at the earliest possible moment immobilisation of the spine, especially in the neighbourhood of the vertebræ diseased.

2. Begin with 10 grains of potassium iodide in mineral water—Vichy is best suited for most cases—three times daily after meals.

3. Increase the dose daily by 5 grains, until the stomach shows signs of intolerance.

4. Maintain as large a dose as the stomach will tolerate until convalescence is fairly established.

5. Do not lose sight of the apparatus employed, and replace it without hesitation and without delay whenever its inefficiency becomes apparent.

6. Keep the patient in bed the greater part of the day, and if he goes out see that the recumbent, or, at least, a semi-recumbent position is maintained. Under no circumstances permit efforts at standing until convalescence is fully established.

7. See that the general health does not deteriorate while special treatment is pursued.

9. Persistent hiccough cured by jaborandi.

Dr. Pagenstecher (*Bulletin Général de Thérapeutique*, Jan. 30, 1885) reports a case of persistent hiccough cured in six days by a decoction of jaborandi after all other remedies had failed to exert any effect. The intervals between the attack gradually became less, the contractions of the diaphragm varied from sixteen to twenty, to thirty and forty per minute. The pulse was very variable, ranging from one hundred to one hundred and twenty to sixty or seventy. Respiration was frequent, averaging about twenty-four per minute. The patient was haggard, and during the last three days had not eaten for fear of vomiting.

During the progress of the disease, no remedy exerted any influence whatever. Finally faradisation was tried, and seemed at first to give good results. Improvement was, however, but temporary, and the hiccough became worse. As a last resort jaborandi was tried. A decoction of the leaves was made, and its administration was followed by its prompt physiological action. Perspiration continued about two hours, and at the end of that time the hiccough disappeared.

The question naturally arises as to whether the relief obtained was a direct effect of the drug on the nerve centres at fault, or whether, as is not unfrequently the case in functional neuroses, the result was due to the general disturbance of the system.

10. The use of strychnine in nervous disease.

Dr. Landon Carter Gray (*New York Medical Journal*, Oct. 24, 1885) reports five cases which show that strychnine was not well borne in two cases of severe acute myelitis, nor in two cases of subacute poliomyelitis; that doses of $\frac{1}{25}$ of a grain, continued for four days, three months after the onset of transverse myelitis with early extension to the lateral columns, suddenly induced alarming symptoms of poisoning; that one patient with chronic general myelitis of traumatic origin was greatly benefited, as was likewise one with general myelitis in which the onset had been gradual; that in five cases of progressive muscular atrophy it acted remarkably as a stimulant; and that, as Dr. Weir Mitchell has indicated, it was decidedly beneficial to persons with neurasthenia, who, after eight or ten weeks' treatment with rest and forced feeding, were taken out of bed, although it failed to agree with three subjects of the same affection treated in the ordinary way.

Strychnine is used in far too a wholesale manner in nervous disorders. Its physiological effects are well marked; but its therapeutic value is by no means on a par with them, and its administration should be governed by clearer indications than those we at present possess. It is certainly injurious in many cases of neurasthenia, where it increases the excitability of the ganglionic cells, the "irritable weakness" of which is at the root of many symptoms. Such cases thrive better on bromides, and ample nourishment.

11. Writers' cramp and its treatment.

Dr. R. P. Robins (*The American Journal of the Medical Sciences*, April, 1885) records three cases of writers' cramp. As regards treatment he finds that absolute rest is essential. If there be atrophy of the muscles, stimulating lotions, with rapid friction, may be employed; and he has seen good results follow alternate

douching with hot and cold water. Finally, in electricity we have a most important factor. As regards artificial aids, Dr. Robins recommends that of Von Nussbaum as possessing, to a greater degree than any of those proposed, the advantages of lightness and simplicity. One of Dr. Robins's patients has derived much benefit by alternating with the ordinary penholder a little apparatus which was made of an ordinary solid rubber ball; this was perforated at about one-third of its circumference, and a penholder was thrust through. The ball was held in the hand, and the penholder was passed up between the first and second fingers. These cases, however, do not in any way convince us of the superiority of the author's plan of treatment over Wolff's method, described in the "Year-Book of Treatment" for 1884. Further evidence of its efficacy will be found contained in the *British Medical Journal*, February 14, 1885, and in the *Lancet*, May 2, 1885.

12. A new therapeutic method: dielectrolysis.

Dr. A. Brondel, at a Meeting of the Academy of Medicine (Paris, September 22), read a communication with regard to the introduction of remedies into the system by means of electricity. The method is based upon the principle that if a current is made to pass through a saline solution the metal will go to the negative pole, and the metalloïd, in certain salts, or the acid, goes to the positive pole. The salt is decomposed. It is this that Dr. Brondel claims to have succeeded in conducting through the animal organism, and to this process he gives the name of dielectrolysis.

For iodine, which is easily dielectrolysable, he applies upon the surface of the body a sheet of amadou dipped in a solution of iodide of potassium, and above this sheet he places the negative pole of a battery, the positive being applied upon some other part of the body; the iodine then separates from the potassium at the negative pole and travels across the tissues towards the positive pole, where it soon appears, as is shown by a starch test-paper. This is a hypodermic method of medication without breaking the skin, and without pain.

A number of simple bodies may be made to traverse the tissues in this way, and the applications of the new method are said to be very numerous and very important. Dr. Brondel claims to have thus cured rheumatic neuralgia of the ovaries, several cases of chronic rheumatism, etc. (The method advocated by Dr. Brondel is by no means new. It has repeatedly been proposed, and rejected on evidence which does not appear to be absolutely conclusive on either side. The whole subject deserves to be investigated afresh.)

13. Iodoform collodion in neuralgias.

Dr. William Browning (*American Journal of the Medical Sciences*, October, 1885) usually employs 1 part of iodoform to 15 of collodion. A half-ounce is usually sufficient for any ordinary single application. Dr. Browning has found it most effective when painted on in very thick layers, which may be conveniently done with the usual camels'-hair brush. As soon as one coating becomes a little firm another is applied, and so on until it appears to have an average thickness of half a millimetre. In the neuralgic cases a cure, when effected, was usually accomplished with one or two applications.

The class of troubles found most amenable to this treatment was narrowly localised neuralgias, especially when corresponding to some particular nerve, and not dependent on any demonstrable lesion. In fact, if a neuralgia, or what is thought to be one, proves intractable to this means, we should doubt its being a purely functional affection, and look carefully for some tangible cause. It has thus a certain diagnostic, as well as a therapeutic, value. Several times its complete or partial failure has led to a more searching and successful examination. Even in such cases much temporary relief is often afforded.

Supraorbital neuralgias, even of malarial origin, particularly if the miasmatic infection dates back some time, seem quite amenable to this treatment. Of course, it is not recommended as a substitute for quinine here, but only as an adjuvant where the latter fails or acts too slowly.

14. Literature.

Among recent contributions to the literature of Nerve Therapeutics in book or pamphlet form, we may mention the following publications which have appeared, or reached us, since the last issue of the "Year-Book":—

Arndt, "Die Neurasthenie," 1 vol., pp. 264. Vienna: Urban, 1885.

Berger, "Die Nervenschwache," 1 vol., pp. 56. Berlin: Steinitz, 1885.

Corning, "On Brain Exhaustion," 1 vol., 8vo. New York: 1885.

Hegar, "Der Zusammenhang der Geschlechts-Krankheiten mit Nervösen Leiden, und die Castration bei Neurosen." Stuttgart: Enke, 1885, pp. 86.

Weir Mitchell, "Lectures on Diseases of the Nervous System, especially in Women." Second Edition, pp. 287. London: Churchill, 1885.

Petit, "Le Massage par le Médecin" (d'après Reibmayr) in 18mo, pp. 208. Paris: Coccoz, 1885.

Graham, "A Practical Treatise on Massage," 1 vol., small 8vo, pp. 286. New York : Wood, 1884.

Müller, "Einleitung in die Elektrotherapie," 1 vol., 8vo, pp. 187. Wiesbaden : Bergmann, 1885.

Löwenfeld, "Ueber den Gegenwärtigen Stand der Therapie der Chronischen Rückenmarks Krankheiten." (Separat-Abdruck aus dem Aerzlichen Intelligenzblatt, Munich : 1884.)

INSANITY.

BY GEORGE H. SAVAGE, M.D., M.R.C.P.,

Physician and Superintendent of Bethlehem Royal Hospital.

DURING the year but little advance has been made in the treatment of insanity by means of drugs, and it is not to be supposed that there will ever be much scope for medicine for the mind diseased, beyond treating the general conditions producing the disorder or disease. All that is aimed at in treatment by drugs, beyond general measures, is controlling symptoms.

The aim of each physician is to produce natural quiet in the excited, and sleep for the sleepless.

1. Treatment by electricity.

During the year this subject has been described by Dr. de Watteville in January number of *Journal of Mental Science*, the article being intended as a guide what to do, and how to do it.

2. Treatment of epilepsy.

During the year the treatment of epilepsy has been considered by many fresh observers, but I fear that no progress has really been made to the clearing up of the remediable causes of this epileptic condition, and a feeling appears to me to be gaining ground, that it is not always for the best that epileptic discharges should be arrested.

Dr Hughes Bennett published an inquiry into the effects of the prolonged use of bromides in epilepsy (*Lancet*, 1884, p. 883).

Amblard also published his observations on chloral and bromide treatment of epilepsy (*Montpel. Med.*, 1883, 2 s. i., 269).

A fourth edition of Dr. W. Tyrrell's short monograph on the tonic treatment of epilepsy, has appeared, and osmic acid has been tried and reported upon by Wildermuth (*Berliner Klinische Wochenschrift*, 1884, 358); and in the *Practitioner*, 1884, xxxii., 431, Dr. Wolfenden gives his experience of hydro-bromate of conia.

Local blistering near the seat of the aura, was recommended by Dr. Buzzard (*Lancet*, 1884, i., 373) in minor cases.

Hystero-epilepsy and its treatment by apomorphia is considered by J. H. Williams (*Medical Times and Gazette*, 1883, ii., 655).

Among other general measures, the administration of iron sub cute has been tried by Dr. Nasse (*Allgemeine Zeitung für Psychologie*, 1885, p. 526).

3. Dipsomania.

The use of cinchona in cases of dipsomania has often been recommended, and further records of its use occur in *British Medical Journal*, 1884, ii., 795, 884, and 1,056.

4. The production of quiet and sleep.

No new remedy for the production of quiet has been discovered, but Hyoscyamine has been sub-divided, and its component parts tried separately.

I must say that hitherto I have used hyoscyamine with great doubt and hesitation, because it was very variable in strength, and because, unless the prescription were made up before you, you could not tell which form of hyoscyamine was being used, whether the amorphous, the crystalline, or Merch's extractive.

Hyoscine, prepared by the same eminent chemist, is said to be more stable and satisfactory.

It is not only useful in mania and sleeplessness, but is said to give peaceful sleep to melancholic patients, whether actively or passively melancholy.

It is best given in solution subcutaneously from $\frac{1}{100}$ to $\frac{1}{50}$ grain. It reduces the pulse in frequency and force, and causes no headache or nausea, disturbance of vision, and dryness of fauces being the only troubles.

Dr. Wood, in the *American Journal of Insanity*, October, 1885, says it gives sleep in melancholia, quiets in noisy paroxysmal mania and epilepsy, but is uncertain in ordinary acute mania.

Dr. J. B. Andrews in *American Journal of Insanity*, Oct., 1885, gives his results in detail of effects of hyoscines, hydro-bromate, and also discusses the effects of the fluid extract of camellia. This is recommended instead of caffein or coca, to renew or sustain the physical or mental organism. It is a heart tonic and cerebral stimulant, and it seems to me that in various forms of "tea" our ancestors had very useful drugs, which we do not sufficiently value, and which are not equalled by fluid extracts, which bear the same relation to the tea that a pot of meat extract does to a beef steak.

Nitro-glycerine and glonoin, and their respective uses, were considered in *Journal of Mental Science*, 1884.

Acetal as a hypnotic was tried in Germany by Berger, in

Breslauer Arzl-Zeitschrift, No. 6, gives his results; he does not think it is nearly so useful as paraldehyd.

Paraldehyd has been the most popular, and, perhaps, the most important addition to pharmacy. Though this drug has been known to chemists, it has only recently been freely tried.

It has been given for restlessness and sleeplessness in various forms of insanity; it has been recommended for the sleeplessness which often precedes insanity, and for the sleeplessness of the overwrought and anxious man. Like chloral, it is ushered in with a very promising future, but like it, I fear we shall find that some compensating evils accompany its virtues.

Paraldehyd may be given in doses from 10 minims up to a drachm, and may be given in one dose, or repeated at intervals if required.

It is best given dissolved in spirits of ether and with syrup of orange, as its taste is unpleasant.

It is well to give it in an ounce of fluid.

It is said not to impair the appetite nor cause headache or nausea, but I have seen it produce all these symptoms even when given in small doses.

Its uses are discussed by **Andrews** (*American Journal of Insanity*, 1884); **Keraval** (*Annales Médico-Psychologiques*, Sept., 1885); **Benda** (*Neu. Centr.*, No. 12); **Starke** (*Allgemeine Zeitung für Psychologie*, 657, 1885); **Parelli** (*Allgemeine Zeitung für Psychologie*, 684, 1885).

Cocaine is the last important addition to be considered, and at present I can only say that this drug, having proved equal to removing common sensibility while minor operations were performed, it was considered probable that it might be useful in some conditions of over-sensibility.

It has been tried in doses from $\frac{1}{5}$ to 1 grain by mouth or subcutaneously, once to thrice daily, in melancholia, sleeplessness, and hypochondriac states. It is too early to speak fully on its effects, and I can only report that a few cases seemed for a time, at least, to sleep better, but to eat less. In very acute and active cases little or no good resulted.

DISEASES OF THE STOMACH, INTESTINES, LIVER, ETC.

BY T. LAUDER BRUNTON, M.D., F.R.S.,

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1. New lines of pathology and treatment.

A very great change is occurring at present in the general mode of viewing the processes which occur in the intestinal canal, and the influence of the new views upon treatment is evident in the literature of the past year. It has been known, from time immemorial, that when such poisons as opium are introduced into the intestinal canal they greatly disturb the functions of the body, and may cause death. But it is only within the last few years that much attention has been paid to the formation of poisons in the intestinal canal by the putrefaction, or even by the digestion, of various kinds of food. The researches of Selmi, Gautier, and others on ptomaines, or alkaloids formed from albuminous bodies during putrefaction, have been greatly extended by Brieger, who, in his recent works, *Untersuchungen über Ptomaine* and *Weitere Untersuchungen über Ptomaine, Berlin, August Hirschwald*, has published some discoveries which are likely to have an important bearing on practice. He shows that there is no real distinction between alkaloids formed in plants in the process of growth and those formed by the putrefaction of albuminous substances. From decomposing meat he has obtained two alkaloids, choline and neurine, which are poisonous, and another neuridine, which is innocuous. From decomposing fish he has obtained another alkaloid, muscarine, which appears to be identical, or nearly so, with the muscarine which is found in certain fungi, and gives to them their poisonous qualities. He has also obtained from decomposing fish another poisonous substance, ethylendiamine. From cadavers he has isolated two alkaloids, which are very poisonous, and four which are not. One of them when injected into guinea

pigs or rabbits appears not to act on any organ except the intestine, which it affects in such a way as to cause continuous diarrhœa, lasting for several days, and producing extreme weakness. The other of these alkaloids, to which he has given the name mydalein, when injected subcutaneously, causes increased secretion of saliva, of tears, and of nasal mucus, along with dilatation of the pupils, exophthalmos, and, what is very interesting, a rise of temperature, amounting to 1° — 2° C. in the rectum. The muscarine which he got from putrefying meat, like the muscarine got by Schmiedeberg from poisonous mushrooms, produces salivation, vomiting, diarrhœa, dyspnœa, paralysis, and death. The action of muscarine, whether it be got from mushrooms or from putrefying meat, is antagonised by atropine, so that an animal which is apparently at the point of death from muscarine may be saved and restored to health by atropine. These alkaloids are formed from albuminous bodies, during the putrefaction which is set up in them by bacteria, but Brieger has also shown that a poison having an action like curare, and which he has called peptotoxin, may actually be formed during the process of the digestion of fibrin by pepsin. It is evident that alkaloids formed in the intestinal canal may be absorbed, and may produce poisoning, as well as alkaloids like morphine, &c., which have been formed in plants and swallowed by men or animals.

The lines of treatment which are now being adopted in treating diseases of the stomach and intestines, as well as other diseases arising from digestive derangements, are (*a*) to prevent abnormal decomposition of ingesta in the stomach, (*b*) to prevent abnormal decomposition in the intestine, (*c*) to remove the products of decomposition when it has occurred, or (*d*) to antagonise their action. The last line of treatment is one which has not yet been much developed, but it seems promising.

2. General treatment of digestive disorders.

This is considered by Lauder Brunton in his Lettsomian Lectures (*British Medical Journal*, Vol. i., 1885, pp. 57, 83, 163, 267, and 314). He draws attention to the occasional usefulness of an abundant meal in conditions of depression, and recommends the late Dr. Warburton Begbie's prescription of powdered rhubarb, subnitrate of bismuth, bicarbonate of soda, nux vomica, and compound cinnamon powder in gastrodynia and intermittent pulse.

Friedrich Hoffman (*Vorlesungen über Allgemeine Therapie*, Berlin, Hirschwald) points out that the stomach differs from other organs, inasmuch as they are protected from the entrance of bacteria, while organisms of all sorts enter the stomach. In health a process of disinfection occurs in the stomach, and Hoffman recommends that in dyspeptic conditions, when disinfection is

imperfectly performed by the stomach, care should be taken to cleanse the teeth carefully in order to prevent the germs which accumulate in carious cavities from being swallowed and originating putrefaction in the stomach. As remedies to stop fermentation, he mentions benzin, and thinks that the remedies frequently used in gastric disorders, such as oil of turpentine, chloral hydrate, and, probably also nitrate of silver and mercurial salts, owe their utility to their antiseptic action. He draws attention to the fact that salts irritate the stomach, and that the bad effects of soups in some cases of disordered digestion may be due to their containing too much salt.

3. Dryness of tongue.

Surgeon-Major Cotter (*Indian Med. Gazette*, Jan., 1885) has found painting the tongue with glycerine in enteric fever and other febrile conditions useful in relieving thirst and dryness, and procuring sleep. Glycerine retains water, and does not allow it readily to evaporate, and thus it keeps the tongue moist. I have tried it mixed with milk or water in the last stages of phthisis, when the tongue was dry and sore, with occasional advantage. If the tongue is tender, glycerine, even when diluted, causes pain, and a solution of cocain gives relief. It is possible that when the tongue is sore as well as dry, a small quantity of cocain with glycerine might give relief.

4. Ergot in hiccough.

Dr. E. Bonavia speaks highly of liquid extract of ergot in hiccough, and records the case of a policeman whom drachm doses completely cured when at the last stage of exhaustion, after the failure of all sorts of anti-spasmodics, narcotics, counter-irritants, and sedatives, including chloroform.

5. Nitro-glycerine in hiccough.

Dr. O. T. Schultz records a case in which a phthisical patient, who had previously suffered from angina pectoris, was cured of a persistent hiccough of nine days' standing, and intractable to all ordinary remedies, by one minim of a one per cent. solution of nitro-glycerine twice daily. (*New York Med. Journ.*, Sept. 19, 1885.) Hiccough is occasionally a most distressing and obstinate symptom, and sometimes appears to turn the scale against the patient, so that the remedies just mentioned are well worth a trial.

6. Dilatation of the stomach.

In this disease the food being retained long in the stomach, abnormal processes of fermentation or putrefaction are apt to occur. The stomach being imperfectly emptied after each meal, the residue of decomposing food originates decomposition in the next meal, and so the morbid process is continued. The most

useful way of preventing this is to wash the stomach out after each meal if the case be severe, or less frequently if the case be milder.

Dujardin-Beaumetz considers (*Therap. Gazette*, Dec. 15, 1884) the processes of lavage, and forced feeding with meat powders. For lavage he prefers the siphon, with soft œsophagus tube, the fluid to be warmed and used once a day, before breakfast preferably. It should be continued till the fluid comes out as clear as it went in. Sodæ bicarb. one drachm to a quart, sodium sulphate one and a half drachms to 1 quart, and Vichy and Chatel Guyon waters are recommended for simple lavage, while in putrid fermentation a 1 per cent. solution of boracic acid and Belloc's charcoal powder are recommended. If there is much pain, he prefers "milk of bismuth," chloroform water (two drachms to a quart), or carbon disulphide water, one-third of saturated solution to two-thirds pure water.

This mode of treatment is indicated wherever there is dilatation. It should be avoided in gastric ulcer.

Gavage, or forced feeding, may conveniently be effected with the following extemporised preparation. Boil the meat, cut it into small pieces, dry thoroughly in a water bath, and grind to powder in a coffee mill. This powder Dr. Dujardin-Beaumetz generally uses with milk, and always finishes a lavage therewith. It is of great value in dyspeptic anorexia and in diarrhœa. It may be given by the mouth, two tablespoonfuls of the powder being mixed with a pint of milk and a little *old* rum or brandy.

Dr. P. Tytler records a case (*Brit. Med. Jour.*, May, 1885, p. 1,041) in which, other treatment failing, he succeeded in effecting a cure by the ingenious plan of making the patient lie on her back for two hours after each meal, and placing a small pillow below the buttocks. The diet was entirely milk and beef-tea. The vomiting soon ceased, and the patient recovered. The rationale of this procedure is, that owing to the relaxed and flabby condition of the walls of the over distended stomach, the food comes to hang below the level of the pylorus in the flaccid sac, which is incapable of emptying itself in the ordinary postures of the body. By elevating the lower end of the abdomen, the contents of the stomach are brought on a level with the pylorus, and thus put in a position to pass on in the natural way.

7. Gastric ulcer.

Dr. Ter-Grigorianz records (*Proceedings of Caucas. Med. Soc.*, November 11, 1884) a case which he cured after failure of the ordinary methods, by the frequent administration of small doses

of perchloride of iron, iced milk, and boiled water in equal parts, well toasted white bread, and an epigastric ice bag.

Dr. McCall Anderson (*Glasgow Med. Jour.*, March, 1885) insists on the importance of diet and regimen, especially in ulceration. For foods: milk and lime-water or seltzer water, butter-milk or koumiss, Savory and Moore's nutritive enemata, Carnick's beef peptonoids are recommended. As a sedative, he speaks highly of black oxide of manganese in 10 grain doses; while in chronic cases small doses of arsenic are advised.

8. Galvanisation of the stomach.

Bardet (*Bull. Gén. de Thérap.*, 1884, p. 529) recommends galvanisation in certain affections of the stomach, especially in dilatation with atony, and in nervous vomiting. Only the constant current should be used. In dilatation the negative, and in vomiting and spasmodic symptoms the positive pole should be introduced into the stomach, and the other pole held in the hand, or placed over the epigastrium. The current should be interrupted very slowly, not more than twice in a second.

9. Vomiting.

Dr. J. H. Owings states (*Maryland Med. Jour.*) that he has used butter-milk for some 50 cases, during the last ten or twelve years, without a failure, in checking vomiting, especially in that consequent on a severe debauch. (*New York Med. Jour.*, September 5, 1885.)

10. Chronic catarrh—dyspepsia.

In chronic catarrh the disinfecting functions of the stomach are impaired, and it will be observed that in the following plans of treatment antiseptics hold a prominent place; carbolic acid, permanganate of potash, hydrochloric acid, bile acids, and calomel. For it is to be remembered that calomel has a powerful antiseptic action (*Wassilieff, Zeitschrift f. Physiol. Chem.*, vi.).

In chronic catarrh **Dr. McCall Anderson** (*Glasgow Med. Jour.*, March, 1885) commends 5 grain doses of calomel, repeated in a day or two, as a sedative, permanganate of potash in fermentation, and tonics, with salines, in the later stages.

In neurosis **Dr. McCall Anderson** gives arsenic, and, if chlorosis exists, Bland's pills. If due to spinal irritation, leeches, counter irritation to the spine, rest, and tonics, are called for.

Dr. McCall Anderson considers that irritative dyspepsia, in plethoric subjects, calls for saline purgatives and calomel, in addition to ordinary precautions.

For atonic dyspepsia, diluted hydrochloric acid, in 8 or 10 minim doses, just after meals, with or without strychnine and vegetable bitters, proves useful. In these cases also, artificial

digestives are called for. He counsels washing out the stomach in dilatation.

Dr. M. Granville recommends (*Lancet*, April, 1885, p. 754) in gouty dyspepsia the salts extracted from ox bile, which are administered in pills, containing each about 4 grains of the glycocholate and taurocholate of soda. They should be taken with food at each meal. The results are said to be striking.

Mr. Dixon speaks highly (*British Med. Jour.*, March 7, 1885) of carbolic acid (2 minims to the ounce of water) with, if requisite, 5 grains of bicarbonate of soda, and 25 minims of aromatic spirit of ammonia, in dyspepsia associated with gastric tenderness, acidity, and flatulence, and also in that of tea-bibbers.

This experience is confirmed (*British Med. Jour.*, March 21) by **Mr. Edward Berdoe**, who, however, gives from 5 to 10 minims of glycerine of carbolic acid in mint-water, with 5 or 10 minims liq. opii sedativ., if there be much pain, or the same quantity of tincture of nux vomica in atony of stomach.

Professor Talma considers that dyspepsia, in most cases, either originates in, or is kept up by, a deficiency of acid permitting fermentation. He, therefore, prescribes 15 grains of pure hydrochloric acid, to be taken during twenty-four hours in 22 oz. of water. This treatment succeeds where alkalies fail, and checks all fermentation. (*New York Med. Jour.*, Aug. 29, 1885.)

11. Uses of kola.

According to **M. Monnet's** investigations (*Bull. Gén. de Thérap.*) kola is a notable tonic, and is useful in wasting diseases. It favours digestion, and appears indicated in atonic dyspepsia, while it is said to be a valuable remedy in diarrhœa. No directions are given. (*New York Med. Jour.*, Feb. 14, 1885.)

12. Intestinal affections—diarrhœa.

General Treatment.—In the treatment of diarrhœa we note the use of antiseptics, such as bisulphide of carbon, naphthalin, oil of turpentine, to prevent the formation of putrefactive products in the intestines; the use of castor oil to remove them; and of belladonna to antagonise such alkaloids as muscarine, which may be formed in the intestine and give rise to vomiting and purging.

13. Antiseptic intestinal medication.

M. Dujardin-Beaumetz recommends the following as a safe and efficient intestinal antiseptic:—Essence of peppermint, 30 drops; bisulphide of carbon, 3vi.; water, 1 pint. Eight to twelve table-spoonfuls to be taken during the day. (*Bull. Gén. de Thérap.* Quoted by *New York Medical Journal*, Feb. 14, 1885.)

14. Naphthalin in disease of bowels.

Prof. Rossbach reports the cure of chronic catarrhal inflammation,

with or without ulceration ; also of cholera infantum, typhus abdominalis, and tubercular ulceration, by naphthalin, prepared as follows :—Commercial naphthalin is repeatedly washed in alcohol and sublimed after drying. It is then in pure white crystalline plates, and is prescribed as follows :—

Naphthalin purificat.					
Sacch. Alb.	...	...	...	aa.	5·00
Ol. Bergamot	...	...	...		0·03

This is divided into 20 equal parts, of which 5 to 20 are taken daily by an adult in a wafer. It does not disturb digestion, and 5 grammes daily can be well borne for weeks.

Dr. Schwarz finds (*Cent. f. Klin. Med.*, Dec. 13, 1884) that naphthalin seldom stops the diarrhœa or destroys the microbes, but undoubtedly overcomes the fœcal odour. In some cases its internal use caused great pain and dysuria.

I have tried naphthalin in diarrhœa with very fœtid stools in a child. It certainly removed the fœtor, but it caused griping, and had to be discontinued.

15. Removal of irritants.

Dr. Jenkin (*Vratch*, No. 12, 1885) gets very satisfactory results from castor oil followed by turpentine, 10 to 60 minims for a dose in milk. In some cases, however, it affects the urinary organs.

Dr. J. K. Spender has found Young's treatment extremely valuable in all those cases of sudden and acute diarrhœa which are so common in August and September. Young's prescription is—*R* ol. ricini 2 minims, liq. morph. hydrochlor 3 or 4 minims, mucilag. acaciæ q. s. ut fiat emulsio. Repeat every two or four hours.

16. Eggs as food in diarrhœa.

The dilution of white of egg with water renders it much more easily digested by the gastric juice, so that being dissolved in the stomach a great part of it may be absorbed before it reaches the intestine. There will thus be less mechanical irritation of the intestine, and less chance of putrefactive products being formed.

Celli (*Allgemein. Medicin. Cent. Zeitung*, Oct. 8, 1884) speaks highly of white of egg in severe diarrhœal affections, as in chronic enteritis, febrile cachexia, phthisis. The whites of eight or ten eggs are emulsified with 20 oz. of water, which is taken in divided quantities during the day. Flavourings may be added, or some tinct. opii if there is much pain.

Dr. Atkinson used them satisfactorily in a case of gastritis in a child, recorded in *The Practitioner*, April, 1885.

17. *Belladonna* in vomiting and purging.

Lauder Brunton (*Practitioner*, Vol. xxxv., p. 190) tried tincture of belladonna in a dose of 15 minims in a case of vomiting and purging, coming on after eating fried liver, with the view of antagonising any such alkaloids as muscarine which might have been formed in the intestine and have given rise to the symptoms. The treatment seemed successful, but as it was tried in only one case, further observations are required to show whether it has really any value or not.

18. Constipation.

According to the *Birmingham Medical Review*, May, 1885, equal parts of glycerine and castor oil, taken in teaspoonful doses, form an efficient and not unpalatable aperient.

In the same place it is stated that a mixture of fluid extract of *Cascara sagrada*, tincture of belladonna, tincture of *nux vomica* and glycerine, in suitable proportions, forms an admirable tonic laxative.

19. Dysentery.

In the treatment of this affection also it is noticeable that antiseptics play a prominent part.

20. Nitrate of silver.

Dr. S. Mackenzie reports (*British Medical Journal*, Nov. 22, 1884) several cases of dysentery treated by irrigating the bowel with 3 pints of tepid water, containing from 30 to 90 grains of silver nitrate, through a Leiter's irrigating funnel, connected by india-rubber tubing with an œsophageal tube with lateral openings. The treatment is founded on the idea that sooner or later dysentery is due to ulceration of bowel, and is best treated by topical measures like ulceration elsewhere. Sometimes one, sometimes two, sometimes many injections were required.

21. Cane sugar in dysentery.

Dr. Vildosola, of Cuba (*Lancet*, July 4, 1885), finds that cane sugar, in a state of fermentation, if chewed, will frequently check dysentery that has resisted all ordinary remedies.

22. Carbolic acid in dysentery.

Schtchegloff (*Russkaia Meditz.*, Nos. 31, 32, 1884) and Kampf (*ibid*, No. 48) treated twenty cases of acute dysentery by two or three injections daily of carbolic solution (1 to 500). Only three were under treatment more than four days, and five were cured in one day. No disturbance was noticed. It did not act equally satisfactorily by the mouth.

Rosenfeld (*Centr. f. d. Ges. Therapie*, Jan., 1885) prescribes the following with great success: pure iodine, 4 grains, carbolic acid, 8 grains, glycerine $\bar{3}$ j. The dose is $\bar{3}$ i. to $\bar{3}$ ii. in an enema

three times a day. He records only six deaths out of 142 cases.

23. Tannin in dysentery.

An article in *Cent. f. d. Ges. Therapie*, Dec., 1884, commends the injection into the intestine as high as possible of warm tannin solutions (5 to 10 parts in 2,000 of water or chamomile infusion), with a view to leave no breeding ground for the bacillus.

24. Hæmorrhage from bowel.

Mr. R. Halpin records (*British Medical Journal*, Jan., 1885, p. 227) a case in which he cured an obstinate hæmorrhage from the bowel by injecting an ounce of hazeline, diluted with a small quantity of water, simultaneously administering $\frac{1}{2}$ a drachm by the mouth every three hours.

25. Treatment of cholera.

Dr. Lauder Brunton and Dr. Pye Smith, in a report on this subject, published in the *Practitioner*, June, 1885, observe that a long series of experiments has led them to the same view of the pathology of cholera as that adopted by many medical men during the first epidemic in this country, viz., that the symptoms are, to a great extent, due to morbid changes in the mesenteric plexuses, leading to paralysis of the intestinal nerves. Under the head of treatment they divide remedies into five classes. 1. Those which are likely to have an antiseptic action in the intestines by destroying any organisms there present. 2. Those which will tend to remove the cholera poison whether it consists of living organisms or of some chemical substance. 3. Those which will counteract the effect of the poison upon the intestinal canal. 4. Those which tend to eliminate the poison from the system after it has entered the general circulation. 5. Those that will counteract its effects there.

1. In this class are carbolic acid, sulpho-carbolates, creasote, benzoic acid, naphthalin, etc., sulphurous acid, nitromuriatic acid, hyposulphites, permanganates, chlorine, chloralum, turpentine, copper salts, boracic acid, calomel, and corrosive sublimate.

Calomel also probably acts by increasing the biliary flow into the intestine, and thus giving place to the natural antiseptic. Grant Bey's successful treatment in the early stages was opium; and when collapse had set in, $\frac{1}{10}$ to $\frac{1}{8}$ grain corrosive sublimate every quarter of an hour, or less frequently. Ox bile, ipecacuanha, podophyllin, aloes, dilute nitro-hydrochloric acid, and Calabar bean have also been used as chologogues.

2. Castor oil is regarded by Dr. George Johnson as *the* eliminating element *par excellence*.

3. Opium, morphia, ice, belladonna, cannabis indica, chloroform, both internally and by inhalation, chloral, carminatives,

and metallic astringents are intended to counteract the effect of the poison on the intestines.

4. Copious draughts of hot or cold water as a diuretic, counter-irritation over the kidneys, and purgatives are eliminants from the circulation.

5. Saline intravenous injections, quinine, inhalations of amyl nitrite, skin friction, dry packing, wet packing, douche baths, Turkish baths, hot applications, ice to spine, epigastric counter-irritation, turpentine stupes, nitromuriatic baths, mustard plasters, and acupuncture are regarded as antagonists of the effects upon the system.

Preventive treatment includes pure air, water, and soil, avoidance of overcrowding, the keeping of the stomach contents acid, the avoidance of gastric catarrh—for which cholera belts are recommended—avoidance of indigestible or putrescent food.

Ciaramelli recommends (*Deutsche Med. Zeit.*) subcutaneous injections of a 10 per cent. or 12 per cent. solution of citrate of iron in the algid stage. Three minims to be injected at a time, three times a day, till the temperature rises above normal (100° F.). Treatment to be resumed as soon as it becomes subnormal. He reports twenty-eight successful cases out of thirty-five. It may be necessary to dilute the solution to avoid local abscesses. (*New York Med. Jour.*, April 25, 1885.)

Dr. Nicholas Duranty (*Bull. Gén. de Thérap.*, 1884, p. 249, quoted by *New York Med. Jour.*, Nov. 1, 1884) uses the following solution for intravenous injection:—Water, 1,000 grammes; sodium chloride, 5·0; sodium hydrate, 1·0; sodium sulphate, 25. The injection fluid is kept warm by immersion in a graduated cylinder, and is injected by a simple cannula, the vein in the neck being constricted by a band above the point of opening; 400 to 500 cc. usually suffice. He records six fatal cases, all *in articulo mortis*, and regards this treatment as a last resort, though he hopes some benefit may be derived from the operation when the proper moment for its employment can be fixed.

Surgeon-Major Sargent (*Lancet*, July, 1885, p. 57) divides cases into two classes: (*a*) when the rice water stools are very frequent, with occasional vomiting and without much restlessness; and (*b*) where purging ceases early, retching increases, restlessness ensues, and death follows in a few hours.

In (*a*) careful nursing usually ensures recovery. In the transition between (*a*) and (*b*) the author says that a 5 grain dose of calomel, with a little castor oil, usually restores the discharge from the bowel, and diminishes the retching, and the patient gradually recovers.

Dr. Major (*Lancet*, July, 1885, p. 93) gives cold drinks without stint, and sulphuric acid with opium in the early stage. Cold abdominal compresses in collapse are accompanied by calomel, 1 to 2 grains, with $\frac{1}{2}$ grain extract of cannabis indica. A diuretic should be given when the evacuations are checked, say ol. terebinth, 15 to 20 minims every one to three hours. Stimulants at discretion when reaction commences, and hot coffee in teaspoonful doses.

Dr. Illingworth considers (*Lancet*, Aug., 1885, p. 268) that opium should be avoided, and that chloral is a safer and better sedative, and when used with belladonna is invaluable in the vomiting and retching. He has employed this in severe cases of English cholera, and thinks it ought to answer in Asiatic cholera, the difference being, in his opinion, only a question of degree.

Durán (*El Siglo Med.*, Aug. 16, 1885) insists upon the importance of at once checking the symptomatic diarrhœa. He orders laudanum to be continued for some hours after the cessation of the diarrhœa.

Guerin, according to the Paris correspondent of the *St. Louis Courier of Medicine*, March, 1885, has practised since 1831 in the premonitory stage abstinence from solid food. Charcoal and laudanum for vomiting and purging, and when they have ceased, a single good-sized dose of mag. sulph. to eliminate the *materies morbi*. In collapse he treats only symptoms without opium or specifics. Warm applications without friction if coldness. During convalescence, sustaining treatment, iron and alcohol. He does not believe in the microbe. He claims to have saved 70 per cent.

Brouardel (*ibid*) treats the general symptoms. Hypodermic injections of morphia are indicated (with circumspection) in cramps.

Professor Peter (*ibid*), in first stage, gives infusion of rice, with ten drops of laudanum; no nourishment. In algid stage, warm blankets, bricks, or hot irons; avoid opium; no friction. In convalescence, quinquina, good food, and toddy. Carbolic acid and borate of soda to disinfect room.

Cornil gives (*ibid*), in algid stage, a cordial draught with 20 drops of laudanum; frictions with turpentine, and turpentine stupes or poultices. Hypodermic morphia for cramps. Hypodermic caffeine was useless, only causing gangrene of skin.

Hayem (*ibid*) introduces, by transfusion into basilic vein or peritoneal cavity, the following in collapse: water 1 pint (T. 98.4° Fr.), chloride of sodium 75 grains, sulphate of soda 375. In the first stage he gives 4 or 5 grammes of salicylate of bismuth (in divided doses?) Also morphia hypodermically, and

friction with chloroform liniment; with feeble heart, stimulants. In collapse, besides the transfusion as above, he gives hypodermic ether, two, three, or four grammes in twenty-four hours.

Prof. Semmola considers (*La Medicina Contemporanea*, Dec., 1884) antiseptic treatment the wrong lines to work upon, for no germicide can be exhibited in sufficient strength to effect its purpose without a baneful effect upon the organism, and the choleraic effects are due to a chemical principle already found in the body when the diarrhoea begins, which poisons the nerve centres. The treatment must be (a) symptomatic, (b) physiological.

(a) Symptomatic—must be moderate and judicious, and will then be of service.

(b) Physiological—means augmenting the resistance of the body to the cholera poison, and consists of absolute repose of gastrointestinal tract, including complete abstinence from all food, solid and liquid, till the diarrhoea has ceased. Milk is the best food to start with when indicated. Secondly—In the first stage of the disease hot baths (38° to $40^{\circ}\text{C}.$) to stimulate the peripheral nerves and reflexly the circulatory centre. Baths may be given every one or two hours, and must be followed by warm flannel wraps and warm drinks, including alcohol. The indications for the bath are slight diarrhoea with epigastric pain, and even without pain, if the diarrhoea resists treatment. Thirdly—small doses of opium to blunt the sensibility of the nerve centres.

In the reactive stage—if slow and without much fever—hygienic principles are alone necessary. If abrupt and with fever, antipyretic measures (including cold baths). If cardiac debility remains, injections of caffeine; if epigastric pain, strychnine; if cyanosis persist, inhalations of oxygen with small doses of valerianate of quinine.

Dr. Lauder Brunton quotes (*Practitioner*, Dec., 1884) **Dr. Saunders** of Paducah, Ky., as having used a hypodermic injection of $\frac{1}{50}$ to $\frac{1}{30}$ gr. of sulphate of atropia in water with great success in an outbreak of cholera. It was found necessary to produce toxic symptoms. (*American Practitioner*, July, 1873.) In consequence of experiments with muscarin and atropia, Dr. Brunton seems of opinion that contraction of the pulmonary vessels and consequent congestion of abdominal and thoracic venous system are important points in the pathology of cholera, and are possibly combatible by atropia hypodermically. Digitalis he also regards as possibly useful.

Dr. George Johnson, in a paper before the Royal Medico-Chirurgical Society (*Proceedings of Royal Medico-Chirurgical Society*,

March, 1885), considers the object to be neither to repress nor to increase the discharge, but to quicken and facilitate the escape of the poisonous secretions which have been poured from the blood into the alimentary canal. The evacuant mode of treatment to which Dr. Johnson refers was described by Drs. M'Cloy and Robertson in Vol. L. of the "Medico-Chirurgical Transactions."

Maragliano (*Gaz. degli Ospitali*, 1884, No. 87) has found the sub-cutaneous injection of water of great service in cholera. He injects 1 or $1\frac{1}{2}$ litre of water at 37° to 40° C. with 3 gram. NaCl, 3 gn. Na H Co₃ and 3 gr. Na₂ SO₄ per litre, and he recommends that the injections should be made in several places. For the diarrhœa he gives an enema of 1 to 2 litres of warm water containing 1 per cent. of tannin. In addition, he uses mustard baths and stimulants, especially ether.

Rion (*Gaz. degli Ospitali*, 1884, No. 84-86) suggests that injections of water should be made into the peritoneal cavity. He has injected salt solution and albumin solutions into the peritoneum of dogs without any ill effects.

Seitz (*Aerz. Intelligenzblatt*, 1884, No. 48 and 49) believes that at present the treatment must apply only to symptoms. In the early stage he recommends ipecac., calomel, tannin, and opium; in the algid stage, camphor and ether; and in the stage of re-action, cold, acids, and quinine. In the discussion which followed the reading of his paper, **Gietl** asserted that camphor injections were useless and dangerous.

26. Intestinal parasites—ankylostoma duodenale.

H. Menke (*Zeitsch. f. Klin. Medicin.*, 1883, vi. 2) has found that this parasite is the cause of the anæmia prevalent among workers in the brick-fields, especially in the neighbourhood of Bonn. In agreement with **Sahli** (*Deutsch. Arch. f. Klin. Medecin.*, 1883) he finds large doses of the ethereal extract of filix mas to be most efficient in destroying the parasites. He recommends as prophylactic measures, that no workmen should be allowed to work in new brick-fields whose fæces have not been found on examination to be free from the eggs of the parasite. Sahli also insists upon the necessity of cleanliness amongst the workmen, as is recommended against lead-poisoning, and suggests that care should be used to prevent the drinking water becoming affected.

27. Ankylostoma duodenale.

In *Centr. f. Klin. Med.*, April 18, 1885, a case of ankylostoma duodenale is quoted, in which doliarin, in doses of from 3 to 4 grammes daily, brought away a great number of the parasites.

28. Tapeworm.

Dr. Howard Pinkney (*Therap. Gazette ; New York Med. Journ.* May 16, 1885) recommends a teaspoonful of oil of pineneedle (*pinus pumilio*) at bedtime, followed in an hour by a dose of castor oil. It has an agreeable odour and taste, and produces no unpleasant symptoms, and is said to be an efficient tæniacide.

Schroeder (*Cent. f. Klin. Med.*, March 21, 1885) recommends five grains of pelletierine as a valuable tæniacide, followed in half an hour by a cathartic. Atheroma of arteries is a contra-indication.—*New York Med. Journ.*, April 11.

Berenger Ferraud (*Bull. Gén. de Thérap.*, May 30, 1885) recommends seven grains of tannate of pelletierine in two doses at half an hour interval, and enjoins a previous diet restricted to rice, milk, eggs, and bread, and complete rest.—*New York Med. Journ.*, June 27, 1885.

29. Biliary colic.

Rosenthal (according to *Dub. Med. Journ.*, June, 1885) recently communicated to the Berlin Medical Society two cases of biliary colic, in which he successfully employed Kussmaul's method of washing out the stomach.

30. Early paracentesis in ascites.

Ewald (*Berlin. Klin. Wochensch.*, 1885, No. 16) recommends early puncture in ascites. He says that it can do no harm, but that it allows the collateral circulation to become established, relieves the pressure on the intestine and great glands of the abdomen, and also avoids the necessity for administering drastic purgatives.

DISEASES OF THE KIDNEY, DIABETES, ETC.

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1. Albuminuria.

Professor Rossbach (*Berlin. Klin. Wochenschrift*, No. 3, 1885) reports on the favourable results obtained in the treatment of interstitial nephritis with small doses of *nitro-glycerine*. Under the influence of the drug, the quantity of albumin is diminished, whilst the quantity of urinary water is increased. It also has a beneficial result in cases where hæmorrhage has occurred, as manifested by the ophthalmoscopic appearances of the fundus oculi, as well as in other forms of hæmorrhage associated with nephritis. **Dr. Maxwell**, of Woolwich (*Practitioner*, Sept., 1885), given a translation of a paper by **Professor Burzhinski**, in the *St. Petersburg Vratch*, on the action of nitro-glycerine in nephritis. Three cases were the subjects of observation. No change being made in their diet or general surroundings, small doses, 0·005 to 0·01 gramme daily, of nitro-glycerine were given. The quantity of urine, the specific gravity, the proportion of albumin by weight, and the weight of the patient were noted. The results obtained were: nitro-glycerine in small doses diminished the quantity of urinary albumin passed daily, and still more markedly the per centage of albumin in the urine. The diurnal quantity of urine was perceptibly increased by nitro-glycerine, this increase persisting some time after the nitro-glycerine had ceased to be given. Gradually increasing doses of nitro-glycerine influenced still more decidedly the formation of albumin. The drug does not seem to influence the density of the urine, the weight of the patient, or the dropsy. With the exception of slight transient headaches, nitro-glycerine does not give rise to any general disturbance. Last year we referred to **Dr. Bartholow's** experience with the drug, who recommended it should be given in nephritis after the subsidence of acute

symptoms, and before marked hypertrophy of the heart or arterioles took place. My experience (*Prac. Treatise on Diseases of the Kidneys, &c.*, p. 267) of the drug has been favourable where there is an exacerbation of the disease, and especially for the relief of renal asthma. **Dr. Simon** (*Bir. Med. Review*, Feb., 1885) recommends nitrite of sodium in 1 to 3 grain doses four times daily. He finds it relieves headache and giddiness in chronic Bright's disease.

Barduzzi (*Il Movimento*, Nos. 9—12, 1885) again records the excellent results he has obtained with *chloral* in the treatment of albuminuria, which he first brought under notice in a communication in *Commentario Clin. delle Malattie degli Organi Genito Urinari*, April, 1884. It is especially useful in the albuminuria of pregnancy, when there is much œdema, and as a prophylactic against eclampsia; it is also useful in functional albuminuria. In a case of simple nephritis, 15 grains, administered twice daily, gave relief in a short time, the albumin almost entirely disappearing from the urine. **Dr. Wilson** (*Brit. Med. Journ.*, May, 1884) has confirmed Barduzzi's observation with regard to the good effect of chloral in puerperal albuminuria. Injections of chloral by the rectum instead of the inhalation of chloroform in uræmic convulsions has also found favour abroad. **Dr. Charles W. Purdy** (*Journal American Medical Association*, Sept. 12, 1885) speaks highly of large doses (20 to 30 grains every 2 or 3 hours) of *sub-carbonate of iron* in cases of granular kidney associated with uræmia. His attention was first drawn to its beneficial effect in the case of a patient who had passed through uræmic convulsions, but still exhibited threatening symptoms for more than a week after, notwithstanding the daily use of hot air baths, purgatives, chloral hydrate, &c. The patient being anæmic, full doses of iron carbonate were ordered, when the uræmic symptoms at once rapidly subsided. In a second case, a lady with granular kidneys, and marked hypertrophy of the heart, the result of puerperal nephritis, was suffering from rather sharp uræmic manifestations, such as headache, nausea, &c.; these were promptly relieved by the use of the iron. Other less urgent manifestations of uræmia, such as frontal and occipital headaches, so common in these cases, Dr. Purdy has observed disappear usually in a couple of days or sooner under the use of the sub-carbonate. He suggests that the action of the sub-carbonate of iron is probably chemical, and acts in some way in modifying the toxæmia, possibly by oxidation. Dr. Purdy, in the same paper, speaking of the advantages of obtaining an "avenue of escape" by means of the intestinal tract for toxic agents, and for the relief of dropsy in acute nephritis, points out the importance of securing intestinal eliminants,

which, while efficient in action, will not violently aggravate any existing irritation. In such cases he has found the administration of the *concentrated saline solutions*, as recommended by **Professor Matthew Hay**, meet the purpose satisfactorily. It will be remembered that Dr. Hay found, on investigating the action of saline aperients, that when given in a concentrated form, they bring away enormous quantities of fluid, attended but by little intestinal disturbance. The best results are obtained from the administration of half to one ounce of sulphate of magnesia in about two ounces of water, given in the morning after permitting no fluid to be taken during the night, nor should fluid be drunk for a few hours after, lest it dilute the saline in the intestines.

Dr. Pavy (*Lancet*, Oct. 17, 1885) has drawn attention to a regularly intermittent form of albuminuria, occurring in persons apparently healthy. The urine first passed on rising may be free from albumin, but that passed during the forenoon generally contains an abundance, declining usually towards night, by which time it may be quite normal. Dr. Pavy points out that the same thing occurs with regard to certain urines that deposit phosphates, the maximum observed being usually during the forenoon. In consequence of this seeming periodicity, Dr. Pavy has applied to it the term *cyclic albuminuria*. No doubt many varieties of functional albuminuria assume a regular intermittent form, but in many it is a question whether the periodicity does not depend rather upon personal habit than cyclical physiological changes. Thus the act of rising, the exposure of body to cold whilst dressing, the cold bath, the fact of breakfast being the first substantial meal after the night's fast have seemed to many sufficient to account for the fact that the urine is sometimes more albuminous in the forenoon than later in the day. For purposes of therapeutic treatment, I think it best in these cases of non-organic albuminuria to endeavour to refer each to its originating condition, such as, for instance, some exaggerated physiological condition. Such as the ingestion of too much albuminous food, eggs, &c., or over-fatigue, &c. To digestive disturbances, as those cases attended with slight jaundice. Or to disturbances of innervation, such as occur in adolescents, or, as **Dr. Matthews Duncan** (*Med.-Chir. Trans.*, 1884) has shown, may occur by reflex irritation, from inflammation of the internal genital organs, as in parametritis, etc.

2. Diabetes.

Dr. James Tyson (*Pepper's System of Practical Medicine*, Vol. ii., *Art. Diabetes*, 1885) ably reviews the various suggestions made with regard to the dietetic, hygienic, and medicinal treatment of

diabetes. With regard to the skim milk treatment, he is satisfied that casein does resist the sugar-forming progress, and that lactin in the early stages of the disease is quite assimilable, but that it is superior to casein, in this respect, he is not prepared to state. He believes that in early cases the skim milk treatment often leads to the complete disappearance of the symptoms, and that after a time a mixed diet may be gradually renewed without inducing a recurrence of the glycosuria. Also in more confirmed cases the skim milk diet often leads to a reduction in the amount of sugar, a reduction which continues as long as that diet is continued. Lastly, in other cases, whilst an impression is made on the quantity of sugar excreted, the disease gradually progresses. These three classes, he thinks, correspond to the three stages of the disease. He advises that eight ounces of skim milk, at a temperature between 60° and 100° F., be given every two hours, and it is also advantageous to give some portion in the form of curd. The skim milk treatment would thus seem applicable to a wider range of cases than has hitherto been admitted. In England its employment of late has been limited to those cases of glycosuria which are common among middle-aged persons of gouty habit and a tendency to abdominal plethora, and in these cases it undoubtedly does good, partly, no doubt, by semi-starvation induced, the diminished tissue metabolism that results, and the consequent diminution of the high arterial tension sometimes observed in these cases. On this point **Dr. Charles W. Purdy**, of Chicago (*Journal Amer. Med. Assoc.*, Sept. 12, 1885), has published some examples of pulse tracings taken from diabetic patients, which in their character are exactly similar to those accompanying chronic renal disease. He has also observed that in three cases in which the sugar disappeared under treatment, the exalted vascular pressure continued uninfluenced, indicating that the cause lay deeper than the mere presence of sugar in the circulation. The good effect so often obtained in those cases of diabetes, in which meat necessarily forms the chief staple of diet, of restricting the amount consumed within moderate limits, a point which I have especially insisted on (*op. cit.* pp. 446—561), no doubt acts beneficially in reducing any tendency to high arterial tension.

In those cases of diabetes in which absolute restriction of all saccharine and amylaceous articles of diet is demanded, **Dr. Tyson** adopts the tables prepared last year by **Dr. Austin Flint** (*New York Med. Journal*, May 24, 1884), with the exception that he allows milk, which Dr. Flint excludes. On looking through this table, however, one is rather surprised to find that oysters are so freely permitted, since the liver of these animals is known to be rich in

glycogen; the same objection extends to the interior of shell-fish, though not to the claws. Neither should we approve of French beans or asparagus in the list of vegetables; as the former contain a large amount of inosite, and the latter a glucoside. The permission to take such fruits as plums, cherries, gooseberries, and strawberries is also contrary to the stricter dietetic views enforced in England, though, no doubt, some diabetics are more tolerant of fruit sugars than others, and that they may be permitted indulgence in the above-named fruits—in all cases, however, their effect on the urine should be carefully watched. Dr. Tyson suggests that bicarbonate of soda should be used in place of sugar in order to render the acid juices of these fruits palatable. He is not in favour of glycerine as a substitute for sugar, since owing to its chemical constitution it is probable that glycerine is converted into sugar in the liver. The gluten flour prepared by a special process by the *Health Food Company*, 74 Avenue, New York, is recommended; in this flour all the salts of the wheat are retained, whilst the starch is almost entirely removed; it certainly is more palatable than the ordinary gluten flour in use. Dr. A. M. Duncan (*New York Med. Record*, May 16, 1885) speaks favourably of pure buckwheat flour made into cakes; he does not state, however, if any process is adopted to free it from starch previously; if not, it is probably serviceable in mild cases of diabetes, in which a slight relaxation from an absolutely restricted diet is permitted, owing to the preparation being lighter and more assimilable than those made from ordinary flours.

With regard to the hygienic treatment, Dr. Tyson insists on a careful attention to climatic conditions and sheltering the body from cold, and points out that the use of the cold bath is often followed by an increased discharge of sugar in the urine. Dr. Tyson makes no allusion to the use of vapour baths followed by tepid douche, which I have found (*op. cit.* p. 446) useful not only in diminishing the diabetic neuralgia, but also in lowering for a time the amount of sugar in the urine. The use of the vapour bath was advocated by Willis several years ago, and in some cases of Sir Thomas Watson's, in which it was tried, the results were very satisfactory; it is strange that such an efficacious aid has been so persistently overlooked. I believe the vapour bath might be usefully employed in diabetic coma as a means of eliminating the toxic agent. Recently M. Campardon (*Progrès Médical*, April, 1884) has spoken favourably of air douches. The douche is applied for five or ten minutes over the cervical and upper dorsal region, where it causes pallor of the skin and a considerable fall of temperature; after the douche the sugar

falls considerably. Dr. Tyson places opium at the head of all medicinal remedies for diabetes, and of its preparations gives his verdict in favour of *codeia*. Undoubtedly, in the large majority of cases, *codeia* has all the advantages and none of the disadvantages of crude opium, but in this, as in so many other instances, patients have idiosyncracies, and one preparation suits better than another; as alternatives to *codeia* I found the *bi-meconate* of *morphia* and *nepenthe* useful, and in one case, in which neither *codeia* nor *nepenthe*, for some reason or other, agreed with the patient, the *liquor opii sedativus* was taken without giving rise to any uncomfortable feelings. Dr. Tyson reserves the sedative treatment for severe cases, when he does not hesitate to give it in large doses. In this there can be no doubt he is right, for one reason why the opium treatment does not yield more satisfactory results, is that it is seldom followed up with sufficient energy. To obtain success it is necessary to give the drug in constantly increasing doses till either the sugar completely disappears or a point is reached at which, in spite of further increase of the dose, the sugar does not further diminish.

Dr. Tyson very carefully reviews the various other remedies that have been proposed for the treatment of diabetes. As the majority were noticed in the *Year Book for 1884*, I need not recur to them again; my opinion then was that as most of them were employed in conjunction with restricted diet, it was difficult to arrive at a definite conclusion as to whether the good effects recorded were due to the action of remedy, or to the close attention to the diet; whilst in other cases in which this doubt was solved, the question arose whether the cures effected were in reality cases of diabetes, or merely temporary glycosuria depending on constitutional condition. Exception, however, must be made in favour of one special remedy, viz., the *liquor arsenicalis brom.*, which is steadily gaining in repute, as it distinctly diminishes the amount of sugar excreted, relieves the neuralgic pains, and acts as a general tonic.

Dr. R. Saundby (*Birm. Med. Review*, February, 1885), in an exhaustive and able paper, sums up the present state of our knowledge with regard to "diabetic," or, as it is otherwise called, "Küssmaul's" coma. Dr. Saundby suggests two plans of treatment by drugs, as theoretical prophylactic measures. The first to check the fermentative processes, by which β oxybutyric acid, acetone, or acetone-yielding bodies may be formed, by means of antiseptic or antizymotic drugs. For this purpose *thymol* has been recommended; *salicylate of soda* has been used very extensively in diabetes, but in spite of it coma has supervened;

nevertheless Dr. Saundby thinks, in selecting new remedies, we should bear in mind that this action of the salicylate is one among other reasons for its employment. The other plan is the use of alkalies—a high degree of acidity of the urine should be regarded as an indication for its use, Vichy water being as good as any other mode of administration. When the attack has supervened, Dr. Saundby recommends energetic means, to obtain an evacuation of the bowels, combined with the administration of stimulants and alkalies by the rectum. Should these fail, Dr. Saundby thinks we should always try the effect of an intravenous injection of a saline solution. To these suggestions I would simply propose to add, at an early stage, before the symptoms are fully developed, a vapour bath given in bed. By means of a hot bath, promptly administered, I believe a patient was rescued from the danger of a threatened attack. When first seen, she was drowsy, her face dusky, and breathing irregular, and she complained of abdominal pains. After the bath she was much relieved, and went on comfortably for some weeks longer (*op. cit.* p. 449). No improvement, however, in the therapeutic management of the condition can be expected till something more definite is known regarding the agent that produces it. The great difficulty in the way, as Dr. Saundby points out, of accepting the view that acetonæmia is the cause of the toxic symptoms, is that acetone has not been proved capable of giving rise to such physiological effects. **Le-Nobel** (*Archiv. f. Exp. Path.*, bd. 18, hf. 1 and 2) has objected to the view that the agent is aceto-acetic acid, since this body is so unstable that it cannot be kept a few hours, even in a stoppered bottle, without undergoing decomposition, yet the body obtained from the urine, and which gives the ferni-chloride reaction, can be extracted by ether. **Minkowski** (*Archiv. f. Exp. Path.*, bd. 18, hf. 2), however, has discovered in the urine large quantities of an acid which he has identified as β oxybutyric acid, which breaks up into aceto-acetic acid and carbonic acid—the former by further oxidation into acetone—this, probably, is the body extracted by ether from diabetic urine—but in what form does it exist in the blood?—is it as butyric acid, or one of its isomers in combination with some base? **Walter** (*Archiv. f. Exp. Path.*, bd. 18, hf. 2) has called attention to the toxic influence of large quantities of acids when introduced into the body in producing symptoms and post-mortem changes similar to those found in acute diabetic coma. The experiments of Walter on animals confirms the opinion I expressed during the debate on diabetes (*Path. Soc. Trans.*, 1883), that there was a strong parallelism, both clinical and pathological, between death from acute

diabetic coma and death from acute yellow atrophy, phosphorus poisoning, or by the administration of mineral acids in large doses ; and that in all, the epigastric pain, the panting respiration, the restless delirium preceding the fatal coma, are characteristic features. From this I concluded that the main cause of diabetic coma depends on de-alkalisation of the blood, either by the excessive formation of acid with the body, or arrested elimination. The observations of Minkowski, and the experiments of Walter, give additional support to this view, whilst, if further confirmation were required, **Hoppe Seyler** has found acetone in the urine of a patient poisoned by sulphuric acid. Our therapeutic measures, especially those that are prophylactic, should be based on this supposition—not only should the diminished alkalescence be restored by the administration of alkalies, but the excess of acid, however it arises, should be eliminated by gentle, but systematic, action by the bowels, whilst the skin should be frequently acted upon by vapour baths, a practice which I particularly insist on. By means of frequent sweating, large quantities of acid are got rid of, especially butyric and formic acid, which seem to be the series from which the toxic agent is ultimately derived.

3. Diuretics.

Dr. Long Fox (*Brit. Med. Journ.*, August 22, 1885) read at the recent meeting at Cardiff an interesting paper on the action of diuretics. Among the excitants of arterial tension, and so secondarily of diuresis, he enumerates the bromides, ergot, belladonna, nitrate of potash, digitalis, squill, nux vomica, and cold. If the general tension remain the same, and diuresis be effected by dilatation of the renal arteries, then the vaso motors of the kidney are either under the influence of some depressing emotion, or the vaso constrictors of these arteries are rendered paretic by a class of remedies that may be called local depressants. Among these, digitalis and squill in the second stage, spiritus ætheris nitrici, all volatile oils and resins, alcohol, belladonna, aconite, the nitrates and nitrites. Of these, alcohol and belladonna only act as nerve-depressants after long-continued use and in large doses. Some of these nerve-depressants also act as direct stimulants to the renal cells. Of these, some stimulate the renal cells without increasing the amount of water, whilst others do both. The difference depends on whether the drug dilates the renal vessels whilst stimulating the renal cells. Juniper does this, and copaibæ to a less degree, hence their value as diuretics. The salines that influence the activity of the renal cells, and bring with them some of the watery elements of the venous plexus round the tubules, vary in power. Salts of lithia and potash act

better than those of soda and ammonia, and soda salts better than those of ammonia. A consideration of these facts forces on us the importance of combining certain diuretics, if we desire to promote diuresis to its fullest extent.

4. Hæmoglobinuria.

Dr. Stephen Mackenzie (*Med. Soc. Proceedings*, 1884) contributes a valuable paper on this disease. He justly remarks that the uncertainty which underlies the pathology of the disease must be reflected in the treatment. He shows, however, that there is some evidence that constitutional conditions are a factor in the production of the disease. Whenever, therefore, any dyscrasic condition is discoverable, our treatment must be directed against it. When syphilis is an etiological influence, antisiphilitic treatment should be tried. *Quinine* has proved serviceable in a great many cases in which there has been no evidence of malarial affection. Indeed, with the exception of the syphilitic cases and one treated by Dr. Warburton Begbie by ammonium chloride, most of the recorded cases that have improved, have done so under quinine. The avoidance of *cold* seems the best prophylactic treatment; and Dr. Mackenzie approves of the plan suggested by Dr. Barlow of gradually accustoming the hypersensitive integument to cold by means of baths. Dr. Dickinson (*Renal and Urinary Affections*, p. 1189, pt. iii., 1885) observes that the most remarkable point in the therapeutics of the disease is the *effect of temperature*, and thinks much may be done by means of *warm clothing* and by the avoidance of exposure. Such measures may keep off the attacks, and, with a disorder of limited duration, this may be equivalent to curing the disease. Dr. Dickinson is of opinion that Dr. Barlow's suggestion must be put to the test of further experience. As to pharmaceutical measures, *quinine* takes the first place. In seven cases treated with quinine alone, five were obviously benefited and two were apparently cured. Other drugs may be more briefly dismissed. *Arsenic*, he thinks, may be useful should quinine fail or be inadmissible. Iodide of potassium was given with apparent advantage in two cases in which syphilis was supposed to co-exist. Dr. Dickinson, however, objects to antisiphilitic treatment by means of *mercurials*, as suggested by Professor Murri. In one case it was obviously injurious. The action of the metal in reducing the number of blood corpuscles and causing anæmia would, he thinks, render it better suited to increase than to diminish the effects of the disorder. Of direct means of stopping the hæmorrhage there are none, except it be warmth. *Iron* is an obvious requirement to mitigate the results of the hæmorrhage, and may be given

in an astringent form. Professor Afanassieu (*Zeit. f. Klin. Med.*, bd. vi.) has recently made experiments on animals, with the view of destroying the red blood corpuscles, and giving rise to hæmoglobinuria by means of substances introduced into the blood. The substances employed were glycerine, pyrogallic acid, and toluylendianim. All induced more or less marked hæmoglobinuria. *Glycerine* withdraws the hæmoglobin, and causes its solution in the plasma, but does not give rise to jaundice. *Toluylendianim*, on the other hand, breaks up the corpuscles, so that the blood becomes filled with coloured granules, which accumulate in the liver, spleen, and kidneys, but unlike what occurs with glycerine, no hæmoglobin is held in solution, and jaundice occurs. *Pyrogallic acid* has an intermediate action between the two, extracting hæmoglobin, like glycerine, and causing slight jaundice, like toluylendianim. Dr. Afanassieu has also shown that the hæmoglobin or methæmoglobin, whether in granules or in solution, is excreted at the glomeruli, in this respect differing from the elimination of the formed products of corpuscular destruction, brought about by poisonous substances, such as chlorate of potash, which are eliminated by the tubular epithelium. From Dr. Afanassieu's investigations, we may venture to infer that the disease exists in two forms: (1) In which the hæmoglobin is simply dissolved out of the blood corpuscles, and that in this form of the disease, in each attack, the dissolution takes place chiefly in the parts exposed to cold. In this form jaundice is not well marked, nor do pigmented casts appear in the urine; (2) a more severe form, in which dissolution is general and probably attended with some destruction of red corpuscles in the liver, spleen, and even kidneys. In these cases the icteric tint is well marked, and casts containing crystals of hæmoglobin, bile crystals, and pigmented granules of disintegrated blood corpuscles will be visible. With regard to the treatment of the disease, I (*op. cit.*, p. 551) agree in all that has been said by previous writers with regard to the prophylactic influence of *warmth*. With respect to Dr. Barlow's suggestion, I think it particularly valuable, but I do not recommend it in all cases, especially in those in which the urine remains albuminous between the paroxysms, for fear of increasing the renal hyperæmia. It may be best tried when the disease remits, and the patient regains his usual health, so that the cutaneous nerves may be rendered less sensitive to cold should the tendency recur. The best plan is to commence with a douche, so regulated that at first hot water is poured over the patient, and which is gradually made colder. I have found warm sea, or sea-salt, baths distinctly beneficial in two cases. The salt seems to

stimulate the skin and render it less sensitive. Although agreeing in the universal consensus of opinion in favour of *quinine* in the treatment of the disease, I think hardly sufficient attention has been bestowed on the beneficial effects that follow the administration of *arsenic*. Under its administration the blood corpuscles, if previously affected, acquire a better colour and appear less translucent. Although it has not the same power that *quinine* has of controlling the paroxysms, it certainly makes the cure more complete and relapses less frequent. *Iodide of potassium* should be given if syphilis is suspected, as an adjunct to *quinine* and *arsenic*, and iron if there is anæmia. *Diet* seems to have an important influence in these cases. A patient who has been some time under observation, finds that his urine remains clear for long periods together when he attends to this point, any imprudence usually bringing on an attack. The diet that best agrees I have found to be one chiefly farinaceous, meat or, better still, fish only once a day, and then only in small quantities. A glass or two of good wine may be permitted.

5. Hæmaturia (endemic).

Dr. S. Cobbold (*Lancet*, May 30, 1885), in a paper read before the Royal Medico-Chirurgical Society, argued that the terms "endemic hæmaturia" and "bilharzia disease" can no longer be regarded as synonymous, and insisted upon the necessity of separating the dysenteries and hæmaturias that are and that are not due to parasites. Any measures of prophylactic treatment to be successful must have for their basis an intimate knowledge of the genesis of the parasite. Post-mortem examinations have shown that the home of bilharzia is the portal system, where the adult worms are found in great numbers. The eggs accumulate within the chylopoietic branches of the portal veins, and also within certain systemic veins that anastomose with them. To the dispersion of the eggs nearly all the symptoms of the disease are due, and the intimate relations between the chylopoietic veins and the systemic veins, supplying the genito-urinary passages, is sufficient to explain why the kidneys, ureters, and bladder are all liable to become the seat of the disease. The employment of medicated injections and surgical treatment were both condemned, and reliance was rather to be placed on good *climatic* conditions, general *tonics*, and other means to aid the curative effects of nature. Whilst admitting that the parasite is generally to be found in the portal veins, it is by no means certain that it is confined to that system, or that it is never found in the systemic veins. For not only do we find cases of bilharzia disease in which the genito-urinary system is solely affected, without evidence of

any intestinal disturbance, but occasionally ova are found on mucous surfaces even more remote from the portal vessels than that of the bladder, as, for instance, in lungs, *vide* case reported by Dr. Mackay (*Lancet*, June 18, 1885). Nor can I agree in Dr. Cobbold's condemnation of medicated injections. In many cases, undoubtedly, the parasite dies, and no further ova being produced, the disease gradually dies out; but even then, the secondary vesical affections, resulting from the long-continued irritation of the ova, have to be dealt with. Thus, in a case recently under my notice, the patient had suffered from bilharzia disease when a boy, which ceased apparently, as these cases often do, at the age of puberty, but some time after he began to pass gelatinous masses, containing corpuscular bodies, but quite destitute of ova. These cases are greatly benefited by topical treatment, and even when the disease is at its height, it ought not to be neglected; since the employment of alkaline injections not only dissolves the branched mucous casts, but also relieves the cystitis and pyelitis, if present, and also by dissolving deposits of uric acid on the ova, diminishes the chance of the secondary formation of calculous matter. For this purpose I would prefer a solution of *biborate of soda* to the *iodide of potash* suggested by Dr. J. Harley; whilst internally the biborate combined with Chian turpentine will be found very serviceable.

6. Lithuria.

Dr. A. Macdonald (*Brit. Med. Journ.*, May 23, 1885), referring to the experiments of Guisepppe and Sansoni, who found that after the administration of *nitrite of amyl*, there was decided increase in the acidity of the urine, and a considerable deposit of uric acid, suggests that nitrite of amyl causes increased elimination of uric acid from the system, and, therefore, might be found useful as a remedy for gout. Dr. Handford, of Nottingham (*Brit. Med. Journ.*, June 20, 1885), very sensibly points out what is probably the true explanation of the increase of acidity, and the deposition of the uric acid, viz., that the drug diminishes the urinary secretion, and that consequently the increase is relative, and not absolute.

7. Neurotic ischuria.

Dr. Shoff (*Lancet*, December 20, 1884) records a case of ischuria, in which there was total suppression of urine for nine days. The illness was attributed to keeping late hours two nights previous to the attack. The thoracic and abdominal viscera were all normal. The patient refused to have pilocarpine injected. The treatment, therefore, consisted in the hot vapour bath in the morning, warm bath in the evening, and

fomentations to the abdominal and lumbar regions twice a day. Internally, stimulating diuretics, and an occasional saline purge; and every evening an enema of castor oil, with soap and water, was given to relieve flatulence and constipation. The patient retained about two doses of medicine out of four, half a cup of soup, a cup of milk, half a bottle of soda-water, and about half a cup of barley-water in the twenty-four hours. There was frequent vomiting, but neither delirium, coma, nor fever. A few drops of bloody urine were passed on the tenth day, on the next twenty-four ounces of urine, containing a very little albumin, but depositing mucus; on the sixteenth day the urine became normal in quantity and quality. **Dr. Ed. Long Fox** (*Brit. Med. Journ.*, August 22, 1885), in a paper read before the British Medical Association, mentioned a case of partial suppression of urine, due to anxiety and poor health acting upon an emotional nature. The urine sometimes fell to two ounces a day. Dr. Fox is of opinion that the condition depends upon a paretic state of the renal vessels, plus a deficient arterial tone. Dr. Shoff's case was probably of the same character. **Dr. Hellier** (*Lancet*, February 7, 1885), at a meeting of the Leeds and West Riding Medico-Chirurgical Association, read the notes of a case of hysterical suppression of urine, in a young lady aged fifteen, in whom for a period of seven weeks there was marked scantiness of urine, interspersed with periods of complete suppression. On two occasions there was no secretion for forty-eight hours, and once it was asserted no urine was passed for five days. The case was associated with severe attacks of gastralgia, with obstinate constipation and menstrual irregularity, but there was little vomiting, and no uræmic symptoms. Dr. Hellier, in his remarks on the case, insisted strongly on the employment of moral means of cure. The treatment best adapted in these cases of neurotic ischuria would seem to be complete rest of body and mind, warm baths, gentle but efficient purgation, and the administration of the *bromides*, *nux vomica*, or *valerianate of zinc*. Should the attack be associated with hysterical manifestations, the condition should be disregarded as much as possible, as far as our behaviour towards the patient is concerned.

8. Uræmia.

MM. Gréhaut and Quinquand (*Journal de l'Anatomie et de la Physiologie*, No. 5), by injecting urea or urine under the skin or into the circulation, produced phenomena very similar to strychnia poisoning. The injection of urine, moreover, was found to be more poisonous than an aqueous solution of urea of equal strength. Death always ensued when a hundredth part of the body weight of urea

was received into the system, whilst the proportion of urea in the blood just before or just after death was 0·6 grme. All the tissues of the animals submitted to experiment were saturated with urea, whilst it was observed that the urea injected under the skin was never completely absorbed at the time of death, though that may have been delayed nearly ten hours. These experiments contradict those made some years since by very competent observers, which showed very conclusively that urea injected into the vessels of animals did not induce convulsions of a uræmic character—but then they did not inject such enormous quantities. When we reflect that the quantity of urea required to produce, according to the above experiments, death from uræmia in a full-grown man, weighing, say, 11 stone, if a hundredth part of the body weight of urea was received into the system, would amount to $1\frac{1}{2}$ lbs., or rather more than twenty times the average daily excretion of urea from the body. Moreover, in these experiments the amount of urea in the blood of the animals poisoned was as high as 0·6 per cent., whereas the amount of urea found in the blood of patients dying from acute uræmia has rarely been noted above 0·28 per cent., whilst the general average may be put at 0·18 to 0·21 per cent. It is thus clear that the amount of urea required experimentally to induce death by uræmic convulsions is far more than what can possibly obtain under pathological conditions.

More to the point is the statement of the poisonous action of normal urine when injected into the circulation. **Professor Bouchard** concludes from this poisonous action of urine that several poisonous alkaloids reside in, or can be rapidly formed from, the different urinary constituents. It has been supposed that in renal dropsy such toxic alkaloids become stored up in the dropsical fluid in the serous cavities and cellular tissues of the body, and that they may, under certain conditions, especially when attempts are made rapidly to reduce the dropsy, be suddenly thrown into the circulation, and thus induce convulsions and coma.

D'Espine (*Revue Médicale*, Sept., 1884) has found an increase of potash salts in the blood of two patients, one suffering from scarlatinal, the other from puerperal eclampsia. Relief followed the withdrawal by venesection of 200 grms. of blood. This was analysed, and the serum was found to contain almost double the normal quantity of potassium salts. It is argued that the passage of the potassium salts into the circulation greatly raises the arterial tension by their direct action upon the endocardium, and intermediately upon the cardiac nerves. It is suggested that the good effects obtained by venesection in uræmic convulsions are

due to the abrupt lowering of the arterial tension, and by the withdrawal of a surplus of the potassium salts that have slowly accumulated. That potassium salts exert a poisonous influence has been long known, since it has been shown that dogs fed solely upon Liebig's Extract of Meat die sooner than dogs altogether deprived of food, owing to the enormous quantity of potassium salts contained in that product ; and Ringer has also shown experimentally how much more powerfully the salts of potash act in producing cardiac contraction than the salts of soda and ammonia. Notwithstanding, I do not think that *potassæmia* accounts for all the complex symptoms which are included in the clinical collective title of uræmia. That condition does not depend, I believe, on the retention of any one poisonous agent in the blood, but on the general accumulation of excretory products in the tissues and fluids of the body ; this accumulation depending partly on a retrograde metamorphosis of muscular tissue, which, as Voit originally showed, takes place in Bright's disease, and would account, therefore, for the large amount of potash found in the blood, and also diminished metabolism, by which the organic products liberated by the retrograde metamorphosis are not reduced to the lowest terms, and consequently are not so promptly removed. Thus in health the relation of extractives to the blood serum is as 5 to 100 ; in Bright's disease it is often 40 to 100. Our treatment, however, of uræmia fortunately will not be influenced by any difference of opinion as to its causation, for whether it be due to the poisonous action of urea, or to alkaloids derived from the urinary constituents, or to the toxic action of potassium salts, or to the general accumulation of excretory matters, our object will still be to quiet the motor disturbances by *chloroform*, *chloral*, or the *bromides*, and to promote elimination, by *venesection* or other appropriate means.

9. Cystinuria.

Dr. Lionel S. Beale (*Lancet*, Aug. 30, 1884) reports two cases of cystinuria successfully treated with large doses of *carbonate of ammonia*. In the first case, the cystin, although it had been persistent for fifteen years, was much reduced in quantity. As much as 55 grains of ammonia carbonate were given daily. In the second case, the cystinuria had been present two years ; this patient took upwards of 50 grains of ammonia carbonate daily for upwards of two years without inconvenience ; the cystine deposit ceased during the last year of taking the medicine, and three years have now passed without its recurrence. It is difficult to explain the action of the salt in these cases. It can hardly be that it acts simply by dissolving the cystin, for though that body is

freely soluble in ammonia, it is precipitated from its solutions by the carbonate. If, however, cystin is formed directly from taurin in a manner analogous to the formation of indigo from indol, it may be that the large dose of alkali causes oxidation of the taurin before it reaches the kidney. If this were the case we should expect to find with the disappearance of the cystin deposits an increase of sulphuric acid and partially oxidised sulphur in the urine. **Dr. Oliver** (*Lancet*, April and May, 1885) has found by means of his peptine test solution that the bile acids are often present in the urine in large quantities, and also more frequently than had hitherto been suspected. Dr. Oliver's researches are likely to throw considerable light as to the exact relationship between taurocholic acid, taurin, cystin, and other partially oxidised sulphur products in the urine.

RHEUMATISM AND GOUT.

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I. Rheumatic fever.

Salicylic Acid.—Professor Latham, of Cambridge (*Lancet*, June 20, 1885, p. 1119), gives the following seven rules for the administration of this agent, so as to insure success in treatment. 1. The salicylic acid to be pure, and obtained only from the vegetable kingdom. Impure acid will, he avers, very quickly produce symptoms resembling delirium tremens. 2. The acid to be given without any base or alkali. A good formula is 100 grains with 15 of acacia powder, and a little mucilage, which suffices for 30 pills. 3. Place the patient fully under the influence of the drug, so as to set up physiological symptoms—tinnitus and deafness. The pain and pyrexia decline on the onset of these. For an adult, three doses of 20 grains are to be given each hour; if no head symptoms, a fourth dose; thereafter, 20 grains every four hours till physiological symptoms occur. In most cases 80 to 100 grains are sufficient; in severe cases 140 to 150 may be required. Afterwards 80 grains daily are sufficient, and diminishing doses as pyrexia declines, when 50 to 60 grains prove productive of cerebral disturbance.

Dr. Latham thinks that as long as the rheumatic poison is circulating in the system, the physiological effects of the salicylic acid (as seen in the healthy) are not set up. Acting as an antidote, the greater the amount of poison, the larger must be the dose of the remedy. But as soon as the formation of the *materies morbi* is stopped, excess of the remedy acts as it would in the healthy organism, illustrating the difference between the therapeutical effect of a remedy and its physiological action.

4. Give the patient 40 to 80 grains daily for ten days after all pain and pyrexia have passed away.

5. For diet, milk and farinaceous food only for at least a week after evening temperatures have been normal.

6. Secure daily a complete action of bowels, employing calomel in 2 to 5 grain doses, with saline aperients in the morning. Purgation is an important adjuvant to salicylic acid treatment, thereby eliminating bile and glycocine.

7. Patient to be wrapped in light blanket, and no more coverings than sufficient to keep him from feeling cold.

Dr. Latham has used this method in cases with aortic and mitral mischief, and where pericarditis was present, without any bad results. Where delirium is present with pericarditis, he thinks it best to reduce the doses, not knowing how far saturation has proceeded. The remedy is powerless to influence the mischief already done by carditis, pericarditis, pneumonia, and pleurisy, but will, by neutralising the poison, check its extension. The diet is to be as free from nitrogen as possible, consisting of milk and farinaceous matter.

Dr. Latham's theory of rheumatism is that glycocine is abundantly formed, as well as uric and lactic acids in the tissues. Glycocholic acid is one of the constituents of the bile, and is naturally transformed in the intestines into cholic acid and glycocine, the latter being again absorbed by the liver, and transformed into urea. Imperfect hepatic metabolism leads to the conjugation of glycocine with other substances to form uric acid. Uric acid at first stimulates, and then depresses or paralyses the vaso-motor nerves regulating the vessels of the muscles. These become dilated, and increased hydration and oxidation goes on, causing pyrexia. Continuous formation of lactic acid leads also to dilatation of the arterioles around the affected parts, and stimulation of the sweat-centres. The treatment by salicylic acid effects the removal of uric acid and lactic acid, by combining with methene cyan-alcohol, from which glycocine and part of the lactic acid in the muscles are derived, as it parts from an albuminous compound, and is afterwards transformed into salicyluric acid, which is passed off by the kidneys. It is difficult for those unfamiliar with modern organic chemistry to follow the Downing Professor in his elaborate hypothesis in this essay. Objection may be raised to parts of it, relating to some of the clinical features of the disease, which, however, do not concern us here. It is doubtful if the pure acid possesses any practical advantages over the commonly used sodium salt, and it is more irritating to the alimentary canal.

Salicylate of Sodium. — Dr. Lauder Brunton (*Pharmacology Therapeutics, and Materia Medica*, 1885, p. 559) recommends the addition of some aromatic spirits of ammonia, or alcohol, to lessen the cardiac depression which the drug sometimes

causes. The tinnitus may be removed by ergot, or hydrobromic acid.

Dr. B. W. Richardson (*Asclepiad*, Oct., 1885, p. 353) uses with advantage a form of Dover's powder, prepared with sodium salicylate in place of the potassium sulphate salt.

Salicin.—**Mr. Mackie**, of Turvey, Bedford (*British Medical Journal*, Sept. 26, 1885, p. 598), records a case of a young man in which this drug was used for eight weeks, in 40-grain doses, thrice daily without any benefit, and which was relieved in a few days by a succession of blisters to the joints, and 5 grains of quinine with 25 of bi-carbonate of potassium, four times daily; milk diet being taken. Mr. Mackie asks whether the migratory form of rheumatism is less amenable to salicylic acid than the stationary form.

Salicin.—**Dr. Bristowe** (*British Med. Jour.*, Aug. 22, 1885, p. 333) believes that in salicin and its derivatives we have *antidotes* to acute rheumatism. He finds that under the influence of scruple doses every two hours, the patient becoming saturated with the drug, the temperature falls to normal in one or two days, and, if the dosage be kept up, remains so. He thinks the salicyl compounds are anti-rheumatic, and not merely anti-pyretic. He has found it to fail at times, but in such instances there is either intense monarthrititis, or "rheumatoid" affection, due to certain specific diseases or serious visceral complication. Gonorrhœal rheumatism is not at all influenced by salicylates (as noted by Professor Fraser, of Edinburgh). If salicyl treatment is specific against rheumatism, it must, he thinks, be, *pro tanto*, specific against the component parts of the disease, and therefore against its cardiac factor. He argues that no reputed specifics are universally successful, and that salicylates do not fail more often than quinine in ague, or arsenic in psoriasis; and believes that failures are commonly due to withholding the drug too soon. He diminishes the dose if delirium supervenes, but has not seen any permanent harm come either from the occasional albuminuria which occurs, or the debility which may ensue under the prolonged use of the drug. He is inclined to agree with MacLagan, in his explanation of the efficacy of salicylates as indicating a malarial nature of rheumatism.

Dr. Coupland (*loc. cit.*) remarks that he has seen fewer cases of carditis and hyper-pyrexia since using salicylates.

Dr. Skerrett (*loc. cit.*) believes that salicylates are of value as anti-pyretics, rather than as a specific for rheumatism.

Dr. Pavy (*loc. cit.*) employs salicin when any toxic effects of salicylic acid appear, but thinks the salts of the latter more

powerful anti-rheumatic agents. He does not think the salicyl compounds are truly antidotal, but that they simply control the manifestations of the disease, allowing time for these to subside, and that they do not influence complications once they have arisen.

Professor Fraser (*Edinburgh Medical Journal*, July, August, and September, 1885) has directed attention to the failure of salicyl compounds in the treatment of acute rheumatism, accompanied with inflammation of genito-urinary mucous membranes. These papers are very elaborate and worthy of study. The fact that so-called gonorrhœal rheumatism is uninfluenced by salicylates is brought out, and it is noted that they are well borne, as a rule, unless their elimination is interfered with as in the case of renal disease.

Salicylate of Sodium applied externally.—**Dr. Cagnoli** (*Lancet*, September 5, 1885, p. 451) employed compresses saturated with a 10 per cent. solution, and covered with oil-skin, round the acutely-inflamed joints. The next day pain and swelling had disappeared. Other joints not thus treated remained in their previous condition, but were afterwards relieved in a similar manner. The drug was not borne by the stomach in this instance.

Cold Water Sponging.—**Dr. Hingston Fox** reports a case (*British Medical Journal*, October 3, 1885) in which salicylate of sodium, potass, quinine, colchicum, and liniments all failed to relieve the patient. Cold water sponging gave immediate relief, and the patient was well in six days. This was in the practice of Dr. Beshara, at the Friends' Hospital, Brumana, Mount Lebanon, and this practitioner wrote that he had used the same treatment in two other cases with success.

Blistering Around the Joints.—**Prof. Latham** (*loc. jam cit.*) explains the beneficial action of the late Dr. Herbert Davies' plan of treatment by supposing that the irritation acts reflexly on the vessels of the muscular area, causing them to contract, and so diminishing metabolism, and lessening the formation of glycocine.

Dr. Bristowe (*British Medical Journal*, August 22, 1885, p. 333) does not admit that blistering in this fashion has any influence over acute rheumatism, but allows that it relieves the pains in the joints without curing or checking the arthritis.

Antipyrin.—**Dr. J. C. Voight** (*Lancet*, October 3, 1885, p. 642) records cases treated by this new drug. He gave 30 grains to begin with, no other remedy being used. In two hours the temperature fell from 104.2° to 99.4° F. Two 15-grain doses were then given, with an hour's interval between them. There was profuse perspiration after the second dose. The pain, which

had been severe, was markedly relieved in a few hours. The drug was continued in scruple doses every two hours of the same day, and during the afternoon of the next five days these doses were given every three or four hours. In the forenoons, doses of 10 grains were given every hour and a half. The temperature became normal on the sixth day. Doses of 10 and 15 grains were given for three days longer, and the patient was then discharged. Frontal headache, sweating, and dilated pupils were observed at first, but no sickness or tinnitus occurred. The pulse fell with the pyrexia, and became firmer. (No mention is made of any cardiac affection.) A case in a child, aged eight years, was treated with ten grains four times in the first twenty-four hours. Smaller doses of 8 and 7 grains were then given every six hours, and afterwards less frequently. Patient reported well in six days. (No mention of any cardiac affection.) Other instances are mentioned in which the pain was relieved by antipyrin, one being a sub-acute case.

Bernheim (*Gaz. des Hôpitaux*, No. 26, 1885) used antipyrin in ten cases of sub-acute rheumatism, in 30-grain doses hourly, till 90 or a 120 grains were taken. In all these the pain disappeared very rapidly, but relapses were frequent, and the drug had to be resumed after two or three days.

M. Jacoud (*Lancet*, November 7, 1885, p. 865), in a recent communication to the Académie de Médecine of Paris, expresses his belief that the benefits derived from antipyrin in reducing pyrexia are of an illusory nature, and that this drug, as well as thalline, another antipyretic agent (a chinoline basis, hydrated parachin anisol), ought not to be regarded as real acquisitions to medical therapeutics.

Oil of Gaultheria.—This has been much used in the United States. It is the same as oil of winter-green, which consists almost entirely of salicylate of methyl. It is antipyretic, and owes its properties, no doubt, to the salicyl compound. It is officinal in the United States Pharmacopœia; the Spiritus Gaultheriæ being composed of 3 parts of the oil, and 97 of spirit—10 to 20 minims are a dose. The odour and flavour are pleasant, but soon pall on the palate. **Dr. H. H. Seelye** has reported cases thus treated (*New York Med. Journ.*, 1884, p. 507).

Hydriodic Acid.—**Dr. J. Craig**, of Jersey City (*New York Med. Journ.*, August 8, 1885, p. 155), reports very favourably of the syrup of hydriodic acid in acute and sub-acute rheumatism, in doses of 1 to 4 drachms every two hours, well diluted with water. Hydriodic acid impedes, and finally (in lethal doses) arrests the circulation (Brunton).

2. Chronic Rheumatism.

Dr. Lauder Brunton (*loc. jam cit.*) recommends salicylate of sodium in small doses.

Icthyol.—Lorenz (*Deutsche Med. Wochensch.*, Berlin, June 4, 1885) reports a case which was unrelieved by ordinary remedies in which local use of ichthyol was very beneficial. As recommended by Unna, of Hamburg, seventy per cent. of paraffin was conjoined with it as an ointment. Icthyol is a tarry material, obtained by distillation of a bituminous shale in which fossil fishes are found (hence the name given to it). It mixes in any proportions with lard, oil, or vaseline. It contains ten per cent. of sulphur, and some phosphorus. The sulphur is not decomposed by mixing it with lead or mercurial salts. It is recommended for psoriasis and various forms of eczema. Further reports upon the value of this remedy in rheumatism are wanting, and it can hardly be deemed superior to many known local applications.

Humid Faradisation and Iodic Dielectrolysis.—M. Brondel (*Bullet. de Thérapeutique*, Paris, 1885, p. 363) reports cases much benefited by this method. The continuous current is applied, the negative pole being placed on the affected part, which is previously covered with a piece of lint soaked in saturated solution of potassium iodide. Free iodine is discharged subcutaneously towards the positive pole placed near the part. Faradisation is employed alternately with this method.

3. Gout.

Nitrite of Amyl.—Dr. Macdonald, of Liverpool (*Brit. Med. Jour.*, May 23, 1885, p. 1,039), recommends this as an eliminator of uric acid both before and during an attack. It is to be given by inhalation of the vapour of 4 minims, and repeated at intervals of a fortnight. The benefits of lowered arterial tension which may thus, and by the use of nitro-glycerine, be secured should not be forgotten.

Biniiodide of Mercury with Iodide of Potassium.—Dr. Illingworth (*Brit. Med. Jour.*, May, 1885, p. 1,005) finds this of great service in gout. He recommends $\frac{1}{2}$ drachm of solution of perchloride of mercury, $2\frac{1}{2}$ grains of potassium iodide in bitter infusion every two or three hours.

Bi-carbonate of Sodium.—Dr. B. W. Richardson (*Asclepiad*, Oct., 1885, p. 353) employs a form of Dover's powder with the substitution in it of sodium bi-carbonate for the potassium sulphate.

Iodine.—Dr. Mortimer Granville ("Gout in its Clinical Aspects," 1885, p. 289) believes that iodine is one of the most potent remedies, if not a specific, for the treatment of the uric acid diathesis. It probably decomposes urate of sodium. He thinks

the tincture the best form to use, given with glycerine, in 10 minim doses. Under its influence the uric acid is discharged as a "cayenne pepper" deposit, the quantity of urine is increased, and the amount of urea rises with great rapidity.

Dr. Schœnemann recommends the painful parts to be painted with strong tincture of iodine, and quinine gr. iii., with bi-carbonate of sodium ʒi. to be given twice daily.

Dr. Lauder Brunton (*loc. cit.*, p. 547 and 563) recommends bromide of potassium and bromide of lithium for the irritability of temper of the gouty. (This irritability is due sometimes to a feeble heart and languid cerebral circulation, in which cases bromides are not indicated.—D.D.)

4. Gouty insomnia.

Paraldehyde.—**Mr. G. F. Hodgson** (*Brit. Med. Jour.*, July, 1885, p. 99) recommends this in both acute and chronic cases. It aids excretion by the kidneys, and is not a cardiac depressant like chloral. Fifteen to sixty minims, well-diluted, and given with syrup, is a proper dose to employ. **Mr. Hodgson** writes from a personal experience of this remedy. He finds the sleep induced by it calm, closely resembling that of health, with no unpleasant after effects. As an anodyne its power is feeble. By combining it with morphia or bromides the soporific effect of these drugs seems increased.

5. Gonorrhœal rheumatism.

Prof. Fraser (*loc. jam cit.*) shows that salicyl-compounds are therapeutically inefficient in this disease. **Dr. Bristowe** has also observed this.

Mr. Clement Lucas (*Brit. Med. Journal*, July, 1885, p. 57) contributes an important paper on the subject, maintaining that there are two forms of the disease: (1) a sub-acute form, not very uncommon in women, often overlooked; and (2) an acute form, with high fever, in which rest and evaporating lotions, locally, are necessary.

A formula a good deal used in St. Bartholomew's Hospital in former years contained colchicum and iodide of potassium. It is commonly forgotten that the articular affections associated with gonorrhœa are *sometimes* of gouty nature, or occur in persons distinctly gouty. Blistering at intervals, and a course of warm sulphureous water douching, are useful in removing the very chronic and lingering forms of arthritis which are due to gonorrhœa. Extension of stiffened and flexed joints may be gradually secured by splints worn for a few hours daily, Mackintyre's splint, or a stirrup arrangement with a weight, being used, in order to extend the knee.

6. Thermal waters in rheumatic and gouty cases.

Thermes de Dax.—An elaborate paper has been written by Dr. Barthe de Sandfort, of Dax, on the virtues of the mud and minero-vegetable waters of that station. (*Jour. de Méd. de Bordeaux*, Aug. 23, 1885, p. 37.) Mud baths are given, and hot mud is locally applied to joints. The latter is employed for forty minutes and followed up by douching. All forms of chronic rheumatism and gout are alleged to be benefited, and especially muscular rheumatism. Many cases are recorded. The treatment is carried out at all times of the year. Dax is the old Aqua Augusta in the Landes, easily reached from Bordeaux. The temperature of the springs is 162° F.

Harrogate, Buxton, and Bath.—Dr. Oliver, of Harrogate ("The Harrogate Waters data Chemical and Therapeutical," H. K. Lewis, London), recommends the combination of these waters in treatment of many cases, the first being used for internal treatment, and the latter for bathing purposes, Bath being preferable in the winter.

Contrexéville.—Dr. Cruise, of Dublin (*Lancet*, June 20, 1885), directs attention to the beneficial effects of the waters of this Spa in cases of chronic or atonic gout. They are laxative, diuretic, and tonic, and thus better suited than the more powerful spas of Vichy, Vals, and Carlsbad. For gouty diabetics this Spa may possibly rank with Neuenahr, and resembles Bethesda water.

7. Books on gout.

"*The Regimen to be observed in Cases of Gout*," by Prof. Ebstein, of Göttingen, translated by John Scott, M.B. London, Churchill, 1885. There is nothing worthy of particular note in the directions given. German physicians have usually not a large experience of gout.

"*Gout in its Clinical Aspects*," by J. Mortimer Granville, M.D. London, 1885.

"*Gout and its Relations to Diseases of the Liver and Kidneys*," by R. Roose, M.D. London, 1885.

"*A Presumptive Diagnosis of Gout*," by J. Milner Fothergill, M.D. *Lancet*, Nov. 7, 1885, p. 846.

"*Treatise on Gout, Rheumatism, and the Allied Affections*," by Peter Hood, M.D. 3rd edition. London, 1885.

ANÆMIA AND ALLIED CONDITIONS.

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1. Recent literature upon anæmia, etc.

In a review of the literature of this subject during the past year, a prominent place must be given to the articles contributed to "Pepper's System of Medicine," by Dr. Osler, to whom was assigned the task of writing upon "Diseases of the Blood and Blood Glandular System." (*A System of Practical Medicine by American Authors*, Vol. III., 1885.) The subjects included under this head comprise: Plethora, Anæmia, Chlorosis, Melanæmia, Progressive Pernicious Anæmia, Leukæmia, Hodgkin's Disease, Hæmophilia, and Addison's Disease. Each of these affections, concerning which our knowledge has materially grown of late years, comprises problems in pathology yet unsolved, dependent upon the still incomplete knowledge of the process of blood formation. The forms of Anæmia are divided by the author into two groups—viz.: (1) Those induced by causes acting upon the blood itself, as hæmorrhage, prolonged suppuration, albuminuria, hyperlactation, inanition, and toxic agencies; and (2) Those induced by disturbance of the blood-making organs. The classification of the varieties of this last named group of primary or cytogenic anæmia is thus made: *a.* Leucocytic. (1) splenic; (2) lymphatic; and (3) medullary leukæmia. *b.* Non-leucocytic. (1) splenic, or anæmia splenica; (2) lymphatic, or Hodgkin's disease; and (3) medullary, or idiopathic anæmia (certain cases); and the justification for such an association is given by Dr. Osler in the following terms:—"It seems questionable whether such a variable feature as increase in the colourless corpuscles should be permitted to separate diseases which have all essential characters in common. We shall probably, however, continue for a long time to speak of these conditions as separate and distinct; but it

is evident as time goes on, and our knowledge of the diseases and blood-development increases, the identity of many of them will be acknowledged, and we shall find that here, as is so often the case in natural history, the multiplication of species has been the result of imperfect information, and that, as points of resemblance in essential characters and development are studied, minor differences disappear."

Chlorosis.—Distinguishable from other forms of anæmia both etiologically and anatomically, exhibits an impoverishment less in the number of corpuscles than in the corpuscular richness in hæmoglobin. Iron, if given in sufficient doses, may be regarded as a specific; and Bland's pills are commended as the most satisfactory method of administering the drug. Dilute hydrochloric acid, or the vegetable acids may be given, and special attention should be devoted to dietetic and hygienic regulations.

Progressive pernicious anæmia is defined as an "extreme and progressive anæmia, developing without evident or apparently adequate cause," and the fact is noted that in this disease the relative coloration of the corpuscles is increased; but their number suffers extreme diminution. As to treatment, it is pointed out that hygienic and dietetic regulations are of prime importance, but that they often fail. Arsenic is the most useful drug, and iron, in the majority of cases, is inoperative. Transfusion is mostly useless, whilst, according to Van Ott's researches, the injected corpuscles and albuminous materials always undergo disintegration in the blood, and a $\frac{6}{10}$ per cent. solution of common salt answers just as well.

Leukæmia may be treated with some hope of success in an early stage by the persistent use of quinine, iron, and arsenic; but when the condition is fully established, the treatment is mainly palliative and symptomatic. Quinine should be given a long trial, but Dr. Osler is not satisfied that it exerts any influence over the white corpuscles. He has seen no benefit from the use of ergotine; and of local measures to reduce the size of the spleen, in the splenic form of the disease, he considers the most effectual are electricity and mercurial inunction. Arsenic should be fully tried, but phosphorus has disappointed the expectations raised of its value. Transfusion is useless, and splenectomy unjustifiable, except, perhaps, in very early stages.

Hodgkin's disease.—As regards the treatment of this affection, Dr. Osler advocates the removal of the enlarged lymphatic glands when circumscribed and local. All local applications are of doubtful value, "galvano-puncture has not been successful, and the same may be said of the various substances injected into the

glands, iodine, arsenic,* chronic acid, etc." Of internal remedies arsenic is the only drug which he has seen of benefit. "When well borne, large doses, 20 or 25 minims of the liquor arsenicalis should be taken three times a day for many weeks. In two cases, with moderate enlargement of the cervical and axillary glands, the progress of the disease seemed arrested, and the glands certainly became smaller and softer." Again, making due allowance for spontaneous fluctuations of the disease, he says, "the beneficial effects of the arsenic are unquestionable, when given early in large doses, and the administration kept up for months." If arsenic is not well borne, then phosphorus should be tried.

Space will not permit a fuller reference to the above and the other articles dealing with allied diseases contributed by Dr. Osler; but sufficient has been cited to show what is the present standpoint of therapeutical knowledge on these subjects. It must be confessed that our resources are very limited, the only reliable drugs being practically arsenic and iron, and during the past year there has been little, if any, advance made in the direction of more success in treating the affections included by Dr. Osler under the head of primary cytogenic anæmia. Those who consult these articles will find therein a complete account of the pathological and clinical facts of those affections up to date. Mention may also be made of the less exhaustive, but accurate, descriptions given in *Scrimpell's Lehrbuch der Speciellen Pathologie und Therapie* (Leipzig: Vogel), and *Eichorst's Handbuch der Speciellen Pathologie und Therapie* (Wien u. Leipzig: Urban und Schwarzenberg) works, which have each passed into second editions within a short time of their first appearance.

Dr. J. H. Musser, of Philadelphia, published in the *Proceedings of the Philadelphia County Medical Society* a report of three cases of idiopathic anæmia, and, in addition to some suggestive remarks arising out of these cases, supplied an analysis of the cases of the affection recorded in America—thirty-nine in all—commencing with Channing's three cases, published in 1842. The paper does not enter into therapeutical considerations, but is of much value as tending to complete our knowledge of the affection.

For the record of a case of progressive pernicious anæmia resulting from multiple osteo-sarcoma (Mosler and Gast), see *Deutsch Med. Wochenschrift*, 1885, p. 447; and for an interesting paper upon nervous shock as a cause of pernicious anæmia, by A. G. Curtin, M.D., see *Philadelphia Medical Times*, 1885, p. 494.

* See, however, on this point "Year-Book of Treatment," 1884, p. 86 and paragraph 8 *infra*.

2. The rational treatment of anæmia.

Dr. Vincent Harris, in some observations on anæmia, contributed to *St. Bartholomew's Hospital Reports* (vol. xx., 1884), points out that the condition may depend upon either a diminished production of coloured corpuscles by the corpuscle-producing tissues, or upon an increased destruction of coloured corpuscles, with a normal production; or, thirdly, upon a conjunction of these two factors. The main sources of supply of corpuscles being the red marrow of bone and the spleen, a diminution in the number of corpuscles must depend upon an imperfect nutrition of these organs. Without denying the influence of the nervous system as a primary cause of such derangement, he maintains that the chief factor in its induction is an insufficient supply of blood. Out of 2,087 patients seen in the course of one year, there were 160 cases (*i.e.* eight per cent.) of idiopathic anæmia, nearly all in females, and the majority between the ages of fifteen and twenty. Most of the patients lived at home, and were not subjected to the causes commonly held to explain the development of the anæmic state, except, perhaps, in the almost invariable circumstance of defective appetite, and an unsuitable or insufficient diet. The rapidity with which these cases improved when placed on iron is only paralleled by the like rapid cure of scurvy under the use of vegetable acids. Dr. Harris explains the beneficial action of iron on the ground that chlorosis is due, not to an actual increased excretion of iron, which is improbable, and unsupported by evidence, but to the iron of the blood and tissues being withdrawn from the circulation, owing to the non-renewal of coloured corpuscles. He suggests that in consequence of an insufficient supply of albuminous food the tissues are unable to take up iron from the disintegrated corpuscles, but when administered medicinally the element is conveyed in a form readily assimilable. From such considerations he deduces the inference, amply borne out by experience, that the mere administration of iron alone affords but a temporary relief, the anæmia recurring when the drug is left off. To ensure a more permanent effect there must also be prescribed an albuminous diet.

The following abstract of a portion of a paper, read by Dr. Joseph Ewart, before the Brighton and Sussex Medico-Chirurgical Society, contains much practical information, and may here be reproduced (*British Medical Journal*, July 4, 1885). "In the treatment of the anæmic state, it was needful to note diathesis and temperament. In most cases regulation of the bowels, improved hygiene, and open-air exercise sufficed, especially if coupled with removal of the cause. In others, ferruginous preparations were demanded; the necessity of keeping the bowels

free, by means of salines, in all cases of constipation, being remembered. It had often seemed to Dr. Ewart, in managing malarial and other forms of anæmia, in which there was frequently manifested great intolerance of steel, that changing the particular preparation employed, a reduction of the dose, or a diminution of the number of doses administered in a given period, sometimes sufficed to get rid of the fulness in the forehead, headache, indigestion, and gastric or intestinal irritation attributed to its use. But in the main, in such cases, and they were numerous, perhaps the best plan was to give very minute doses indeed ; to assimilate them in this respect, as much as possible, to the condition in which they were found in chalybeate waters in a most diluted form, so that they might be taken between meals in large quantities of water during those periods of the morning and afternoon when out-of-door exercise could best be taken. In summer Dr. Ewart invariably recommended such persons as could afford it to try the excellent chalybeate springs of St. Ann's Well, Brighton, Tunbridge Wells, or Harrogate ; or the pure iron waters of Schwalbach or Spa ; or the compound iron springs of Pyrmont or St. Moritz, under the direction of one of the physicians on the spot, and with the best results. Digestion, assimilation, and the nutrition of the blood, as regarded both albuminous material and the red corpuscles, were promoted by good, but not too rich food, by drinking of the mineral waters, by open-air exercise, suited to the growing capabilities of the patient, under the most agreeable surroundings of fine, equable weather ; by brilliant sunlight, tempered by abundance of shade ; by society, and the best of music. The same mode of management was applicable to chlorosis also in anæmic Anglo-Indians, who had returned to their native country after long residence in or near the tropics ; but very free purgation to remove portal plethora in such patients was necessary when the treatment was conducted in this climate. In the winter there was often, practically, no alternative. But in summer it was better to recommend them to drink, first, the saline waters of Carlsbad or Hamburg on the spot, and to wind up with a course, if any, of the chalybeate springs already mentioned."

3. The value of arsenic in anæmia and atrophy.

Dr. S. Wilks has written strongly in support of the utility of arsenic in anæmic and atrophic conditions (*Lancet*, 1885, i., p. 653), in which he states the most remarkable effects of this remedy are seen. His attention was first called to it by the controversy between the late Dr. A. Taylor and others respecting a statement in Johnston's "Chemistry of Common Life" (1855),

about the arsenic eaters of Styria. Dr. Wilks gave it with benefit in chlorosis, and about ten years later had some striking examples of its value. He recalls the case of a lady, "the subject of idiopathic anæmia, the form of disease subsequently discovered by a German, and styled 'pernicious anæmia.'" In a few weeks she became much better, and remained well subsequently. Since then he had had several cases under his care of a like nature. Besides these cases he has found great benefit from the use of arsenic in wasting and general cachexia, some of which may be attributed to malarial poisoning. He gives three cases of marked emaciation and debility, to an extent suggestive of latent malignant disease, which recovered under this treatment. He does not mean to say that the remedy never fails, but points out that the unsuccessful cases, though simulating simple anæmia and atrophy, were mostly examples of early malignant and other organic disease. He adds, "I have never given very large doses, generally 4 or 5 drops of the liquor arsenicalis, three times a day, or a little more of the soda preparation. I have never observed any injurious effects from its use, although, as is known, it becomes absorbed into the system, the urine showing its presence many weeks after its administration has ceased. I will not pretend to say how the remedy acts. Why, when wasting is going on, and the blood corpuscles becoming disintegrated, arsenic should stop the process, and the globules begin to grow, or why it should allow the carbon to be stored up as fat, I do not know."

4. Arsenic in progressive pernicious anæmia.

Two cases of progressive pernicious anæmia in inmates of Garland's Asylum have been recorded by Dr. Macphail (*Edin. Med. Journ.*, June, 1885); one a female, æt. sixty-five, the subject of recurrent attacks of mania, for which she had been in the asylum on five different occasions since 1870. When admitted in July, 1883, she was acutely excited and maniacal, anæmic, and suffering from bronchitis. For a few weeks she improved physically as well as mentally, under treatment by quinine. Then her health rapidly failed, with occasional attacks of vomiting, loathing of food, and gastralgia. She fell into an extreme degree of anæmia, and on December 17th the blood was watery, red corpuscles 17·3 per cent., and mis-shapen; hæmoglobin, 30 per cent. Liquor arsenicalis 5 minims was prescribed thrice daily. The gastric symptoms increasing, the arsenic had to be omitted, and an iron mixture, with extract of malt, was substituted. On October 18th the condition of blood was: red corpuscles, 14 per cent; hæmoglobin, 20 per cent., and the case ended fatally on October 21st. The

other case was a male, æt. forty-two, who had been in Garland's asylum since 1868, and previously for twelve years in Broadmoor Criminal Asylum. He enjoyed fair physical health until 1882, when symptoms of anæmia arose, and in the spring of 1883 his condition steadily grew worse. In July he had to be constantly in bed owing to his debility; the pallor was extreme, and the slightest exertion produced dyspnœa. Arsenical treatment was commenced on July 12th, the condition of the blood being: 20 per cent. of hæmoglobin, and 17·4 of red corpuscles, which were irregular in shape and size; the white corpuscles were also diminished. From that date he improved, the arsenic being continued for upwards of two months. The following figures indicate the rate of his improvement, the symptoms and condition of the patient improving *pari passu*:—

July 26th,	Hæmoglobin,	24 per cent.	Red corpuscles,	20 per cent.
Sept. 4th,	"	48 "	"	40 "
" 24th,	"	70 "	"	58·3 "

By the end of October he could walk three miles daily without fatigue; his mental condition was unchanged, "except that he has lost his languid, prostrate look, and talks rather more than he did." The blood on December 4th showed hæmoglobin and red corpuscles to be over 80 per cent.

Dr. Macphail refers to the introduction of arsenic in the treatment of the disease by Byrom Bramwell, in 1877, and notes the silence with which the efficacy of the drug has been received by the authors of text-books. He thinks that we may fairly claim arsenic to be a specific in cases of pernicious anæmia, provided that recourse be had to it early enough; and he notes that its value is the more remarkable as it has very little hæmatinic effect in cases of simple anæmia.

Similar testimony to the value of arsenic in pernicious anæmia is given by Dr. G. B. Shattuck (*Boston Medical and Surgical Journal*, 1885, p. 2), who relates the case of a farmer, thirty-eight years of age, who had been a sailor for many years, and in early life suffered from malarial disease. When he was admitted into the Boston City Hospital he had been ill about a month, had become much emaciated and enfeebled, and had latterly suffered from severe epistaxis. He also presented signs which led to a diagnosis of phthisis. The spleen was slightly enlarged. He did not improve on malt, cod-liver oil, and iron, but became affected with hæmorrhage from the ear, followed by deafness. The red corpuscles were reduced in number to 595,000 per cub m.m., and large

retinal hæmorrhages were discovered. He was then placed on Fowler's solution. A fortnight later the corpuscles numbered 1,180,000 per cub.m.m, and in another fortnight 3,025,000. He eventually recovered, and Dr. Shattuck remarks truly that, "Had he not been put on arsenic when he was, there is no rational ground to doubt that he would speedily have died." From the severity of the symptoms, and the rapid progress of the case, this appears to have been one of the most extreme instances in which recovery has taken place.

5. Progressive anæmia cured by iron after failure of arsenic.

It has been abundantly shown that in the vast majority of cases the downward course of idiopathic progressive anæmia is more likely to be arrested, if at all, by the administration of arsenic rather than of iron, thereby constituting one of the marked distinctions from chlorosis. It would, however, be fallacious to assume that if iron does improve the blood condition, the case is, therefore, not one of the class to which Addison first drew attention. A case published by Dr. D. W. Finlay (*Lancet*, 1885, i., p. 374) illustrates this point. It was the case of a man, aged forty-five, who had had attacks of ague about the age of eighteen, and previously. For two years before coming under observation he had complained of increasing weakness, with pain in the back, frontal headache, dimness of sight, and noises in the head. He had occasionally lost a little blood from hæmorrhoids. For six or seven months increasing pallor had been observed, with shortness of breath on exertion, and swelling of the feet and legs towards evening, and he had once brought up half a teacupful of blood without coughing. He was fairly nourished, markedly anæmic, the skin was waxy and of a faint yellow tinge, the muscles were soft and flabby, and there was slight pitting on pressure over the ankles and shins. The heart's apex was in the sixth interspace, an inch outside the nipple-line, and there was a well-marked blurring systolic murmur. There was no enlargement of the spleen or lymphatic glands; the urine was normal; the blood showed a corpuscular richness of 23 per cent.; the red corpuscles aggregated in masses; no excess of leucocytes; no retinal hæmorrhages. After three weeks' treatment with arsenic, the red corpuscles were further diminished to 21·2 per cent. Three grains of dried sulphate of iron were prescribed, in pill, thrice daily—and from that time he began to improve. In ten days the blood showed a richness of 47·8 per cent., and the apex murmur became less marked. A little arsenic was now given in addition, and on January 16th—just two months after his admission into the Middlesex Hospital

—the corpuscular richness of the blood had reached 72·8 per cent. The heart's apex was within the nipple-line, the murmur inaudible, the muscles much firmer, and the patient much better. He was then sent to the sea-side, and returned in three weeks, feeling quite well, with a good colour and no shortness of breath. A few weeks later the corpuscular richness was found to have reached 91·2 per cent. He has since continued well, and able for his work as a wheelwright.

A valuable commentary on cases of this class occurs in the paper by **Dr. Wilks**, above cited (No. 3). According to his experience of idiopathic anæmia, "in most of the cases where arsenic has succeeded, iron had previously failed; and it is a question, therefore, whether the latter be of any use in the so-called pernicious anæmia. This, however, does not seem invariably the case unless the diagnosis is at fault. For example, a woman came into the hospital in so bloodless a state that she could not leave her bed, and it was said that iron had been given in vain. An examination of the blood displayed, as was thought, characteristically altered blood-globules, and arsenic was prescribed. After a long course of this medicine she was no better, when iron was ordered for her. She then immediately improved, and left the hospital well."

6. Phosphorus in splenic anæmia (leukhæmia?)

The successful employment of phosphorus in the treatment of a rickety child, fourteen months old, suffering from "splenic anæmia," is recorded by **Mr. T. J. Verrall** (*Brit. Med. Journ.*, 1885, i., p. 24). The spleen occupied the whole of the left side of the abdomen, extending forwards nearly to the umbilicus and backwards to the spine; the blood was pale, and thirty white corpuscles were counted in the microscopic field. The child grew worse under Parrish's food and cod-liver oil; but on the addition of one minim of the oleum phosphoratum (B.P.) to the latter twice a day, improvement set in. For about five weeks the juice of an ounce of raw beef was also given daily. After six months' treatment the spleen had diminished to four inches in length, was softer and more mobile; the blood was darker and contained fewer white corpuscles. The improvement was permanent.

7. Albuminate of iron and hæmoglobin in anæmia.

Dr. McLane Hamilton (cited in *Med. Times and Gaz.*, 1885, p. 291) expresses a preference for a combination of iron and albumin with an alkali in cases of anæmia where other preparations of iron, even the blandest, are not well borne, or where there is an unwillingness on the part of the patient to take the drug. He gives the remedy in chocolate lozenges, each containing ten grains

of the salt, and is satisfied of its rapid action and tolerance by the stomach.

Benczur (*Deutsch. Arch. f. Klin. Med.*, 36. p. 365, April, 1885) advocates, on theoretical and experimental grounds, the administration of iron in the form of hæmoglobin. Chocolate pastilles, weighing about 2 grammes each, are made up with hæmoglobin, derived from dried corpuscles of oxblood. Each pastille was found to contain about 0·3 grm. of oxyhæmoglobin. He found that cases of chlorosis treated with this preparation (6 pastilles daily) improved as rapidly as those treated by large doses of iron salts, *e.g.* Bland's pills; and he argues that although the good effects of large doses of iron depend much upon its action on the gastro-intestinal mucous membrane, yet there are many cases in which the drug cannot be borne. The minimal quantity given in the hæmoglobin pastilles (6 containing only about 3 milligrammes of iron) is all that is absolutely needed to reinforce the blood, and it is presented in a form whereby it can all be assimilated.

8. The treatment of lymphadenoma.

In the last volume of "The Year-Book" (p. 86) the observations of **Karewski** upon the value of arsenic in the treatment of lymphadenoma were given. At a meeting of the Berliner Medicinische Gesellschaft on Nov. 19, 1884, **Dr. Karewski** showed two patients who had been successfully submitted to this treatment. (*Berl. Klin. Wochenschrift*, Dec. 22, 1884.) One was a lady who had been exhibited to the Society four years previously by **Dr. J. Israel**, after her supposed recovery from the affection. Since then she had had many relapses, for which Fowler's solution had been prescribed successfully. At the date of the meeting she was suffering from another relapse; the tonsils were greatly enlarged, as well as the cervical and axillary glands. On this occasion the patient seemed to be intolerant of Fowler's solution, and a solution of pure arsenic acid had been prescribed, and was well borne. The patient, who was nearly seventy years old, had retained a well-nourished appearance. The other case, a man sixty-six years of age, had been for four-and-a-half months under observation. About six months previously the cervical glands commenced to enlarge, he became very emaciated, and presented a chain of enlarged glands, extending from the right angle of the jaw to the clavicle; the inguinal and axillary glands were enlarged, as were also the mesenteric glands, the liver and spleen. In this case also Fowler's solution was not tolerated, but arsenic acid was well borne. The drug was administered both by the mouth and by injection. The treatment was on one occasion suspended during an intercurrent febrile attack; but there was no pyrexia produced

by the arsenic, and only slight inflammatory disturbance by the injections. The tumours had become reduced to one-fourth of their former size, and the patient had gained five pounds in weight.

A case of a similar kind is recorded by **Dr. Stephen Monckton** (*Brit. Med. Jour.*, 1885, ii., p. 598). The patient, a male, fifty-seven years of age, presented, when seen in March, 1885, enlargements of the supra-clavicular, axillary, and inguinal glands on each side of the body. Keratin coated pills, each containing one thirteenth of a grain of arsenious acid, were prescribed about the 4th April, and continued, one thrice daily, for two months, with the result that the glandular swellings "steadily and considerably diminished"; unfortunately the patient died in June from an attack of pleuro-pneumonia. Before death the glandular swellings had almost disappeared.

9. The use of arsenic in malarial cachexia.

In advocating the use of arsenic for the treatment of malarial cachexia (*Practitioner*, Sept., 1885) **Dr. Nias** reminds us that "the classical work" on the subject "in English is that of Fowler, the author of the liquor arsenicalis that bears his name; it is entitled 'Medical Reports of the Effects of Arsenic in the Cure of Agues, Intermittent Fevers, and Periodic Headaches, by Thomas Fowler, Physician to the General Infirmary of the county of Stafford'; and is well worth reading for its lucid style and practical wisdom. Though published in 1786, it is still a compendium of treatment, and if the pamphlet were generally obtainable there would be little need of further writing on the subject." **Dr. Nias** became acquainted with the use of arsenic in Algeria, where the drug is large employed as a prophylactic for malarial disease. The baths of Hammam R'Ihra, which have a great reputation in ague, appear to depend for their efficacy upon the iron in the water (which also contains traces of arsenic) drunk, and the alternation of the hot bath with cold local douches. **Dr. Nias** records a case of malarial cachexia, with great enlargement of the liver and spleen, in which rapid improvement followed the prescription of three minims of liq. arsenici hydrochlorici, three times a day before meals, with ten minims of dilute nitro-hydrochloric acid. Another case of periodical neuralgia and anæmia, presumably dependent on malaria, was treated for two months with benefit, and **Dr. Nias** states that he has since had similar cases, all of which were treated on the same lines with equal success. He concludes "that there comes a time in the course of ague when specific treatment becomes secondary to the appropriate treatment of symptoms; at this stage arsenic in its treble capacity of hæmatinic, stomachic, and febrifuge plays a

very useful part." He does not thereby wish to exclude other tonics, and believes the efficacy of his prescription to be enhanced by the addition of recently prepared nitro-hydrochloric acid.

10. Ferruginous medication.

In the course of some lectures upon diseases of children (*Conférences Thérapeutiques et Cliniques sur les Maladies des Enfants*, Tome ii., Paris, Delahaye, 1885) M. Jules Simon devoted some space to the consideration of medication by iron and the subject of anæmia generally. Respecting iron he said it was indispensable to select the form of the drug according to the nature of the disease, the temperament and age of the patient. He enumerates the various insoluble and soluble preparations, and prefers for young subjects the iodide in scrofula, the lactate in gastric irritability, and the perchloride in chlorosis and septic diseases. He speaks also of the ferruginous mineral waters, especially the springs of Luxeuil (Haute Saone), which are useful both for bathing and drinking, are well borne, increasing appetite, and not inducing constipation. Another spring he recommends is that of Forges (Seine Inférieure), containing cold bicarbonated ferruginous water, useful when there are dyspeptic symptoms. His general rule in the treatment of true chlorosis is to begin with the lactate, and in cases where there is obstinate constipation he prescribes the carbonate with rhubarb. He confirms Trousseau's distinction into true and false chlorosis, and illustrates the dictum of that physician as to the harmfulness of iron in tubercular cases. A few paragraphs are devoted to anæmias of growth, convalescence, etc., and the value of sea-bathing where it can be borne.

11. Subcutaneous injection of blood.

Prof. von Ziemssen (*Deutsches Archiv. für Klin. Med.*, 36, p. 269, Feb., 1885) raises the question whether the operation of blood transfusion can be relieved of its risks and ill-effects by a modification of the method, whereby it may be possible to introduce a certain quantity of blood into the subcutaneous tissue, so as to permanently raise the hæmoglobin standard and increase the number of red corpuscles without inducing the changes which have been especially pointed out by Bergmann. He also enquires into the manner in which the frequently repeated introduction of small quantities of blood (50 cub. centim.) affect the composition and function of depraved human blood. Attempts have been made during the last ten years to test the results of subcutaneous injection, but hitherto experience has been lacking upon important points, such as whether it is possible to succeed in rapidly and fully introducing the blood into the recipient's circulation by this

means ; nor has it been shown that the method is free from the after appearance of fever, hæmoglobinuria, and local inflammation. Nor has it been shown to have been efficacious in improving the quality of the recipient's blood or his general condition. Experiments with the blood of various animals were always attended by negative results, for just as with intravenous transfusion, the effect has been the occurrence of hæmoglobinuria, fever, urticaria, and local abscess. When defibrinated human blood is injected, especially if repeated within a few days, the results are far more satisfactory. The skin and mucous membranes are restored in colour, the physical and mental powers improved, sleep and appetite regained ; and spectroscopic analysis proves an increase in hæmoglobin, whilst numeration of the corpuscles shows that they also are increased by this procedure. Two cases are selected for illustration of the efficacy of the method. One, a severe case of scorbutus in a journeyman, 40 years of age, with intramuscular and subcutaneous hæmorrhage. Six days' dietetic treatment had no effect ; but after two injections, each of 50 cub. centim. of healthy defibrinated blood, with an interval of five days, the standard of hæmoglobin was greatly raised, and a rapid improvement in the man's condition resulted. In the other, a severe case of anæmia in a girl, eight years of age, one injection of 50 cub. centim. (25 cub. centim. into each thigh) was followed by permanent improvement and rapid recovery. In neither case were any ill-effects produced. It is essential that the syringe, which should be of 25 cub. centim. capacity, should have a cannula of wide calibre ; that there should be most careful disinfection of the hands of the operator and the skin of the blood-giver and recipient, as well as of the utensils and instruments. Another important fact is the practice of massage of the limb during the injection, so as to drive the blood from the tissues into the circulation, the massage being continued for five minutes after the injection has ceased. That the blood is rapidly taken up into the circulation by this device was proved in a case of phthisis, where the injection was performed when the patient was almost *in extremis*. An examination showed only blood staining of the tissues in the vicinity of the injection. Nor is any local swelling or inflammation produced. Prof. v. Ziemssen thinks the measure applicable to cases of severe anæmia and chlorosis, or anæmia after profuse hæmorrhages, puerperal, traumatic, intestinal, and other, in leukæmia, pseudo-leuk hæmia, pernicious anæmia, in fact, in all cases where transfusion might be contemplated.

Dr. D. Benczur, of Buda Pesth, gives the results of his experimental study of the same subject (*ibid.*, p. 379, April, 1885), arriving at the following conclusions :—1. That crystallised and

redissolved hæmoglobin when injected beneath the skin is readily taken up by the circulation, and is in part excreted by the kidneys. 2. The resulting hæmoglobinuria is accompanied by blood-casts and blood corpuscles in the urine. 3. Fever and albuminuria also occur, the latter lasting longer than the hæmoglobinuria. 4. Pain and inflammation are caused locally by the subcutaneous injection of hæmoglobin. 5. But when defibrinated human blood is subcutaneously injected with all needful caution, it does not produce either pain or inflammation, even if it be in large amount, provided that its transit is aided by massage. 6. If animal blood be similarly injected into the human subject, local inflammation and abscess ensues. 7. The subcutaneous injection of human blood increases the hæmoglobin capacity in anæmia; an increase which is greatest the day following the injection, and persists for ten days, although in diminishing proportion. Repeated injections cause a more permanent and considerable increase of the hæmoglobin.

The subcutaneous injection of blood advocated by **Professor von Ziemssen**, as a remedy for severe cases of anæmia, has been employed by **Dr. Oscar Silbermann**, of Breslau (*Deutsche Med. Wochenschrift*, 1885, p. 445) in two cases, which had failed to improve under the influence of diet and various ferruginous preparations. Case 1.—A boy, eight years of age, who became very anæmic a year previously, following measles and whooping-cough. The pallor was extreme, and the symptoms included palpitation, faintness, vomiting, drowsiness, etc. There was a systolic mitral bruit. The blood was pale, and showed an excess of white corpuscles. On March 1st, with all antiseptic precautions, 45 grammes of blood were drawn from the median vein of the patient's brother into a porcelain dish, kept at a temperature of 39° C., and defibrinated; and 20 grammes injected beneath the skin in each thigh. During the operation and afterwards, the limb at the seat of injection was subjected to massage. The whole procedure occupied sixteen minutes. No fever followed; and the urine was free from albumen or hæmoglobin. There was no local pain nor redness. On the 3rd March the face had lost its waxy colour; there had been no recurrence of faintness, and the general condition had so much improved that it was thought there would be no need for further injection. A recurrence of the syncopal attacks on the 9th decided the question, and next day the procedure was repeated; 40 grammes of blood being injected. From that date all the anæmic symptoms began to pass away, and, when last seen, in May, the boy remained perfectly well.

Case 2.—A girl, eleven years old, who had lost much blood

from a rectal polypus since May, 1884, until its removal, by operation, in January, 1885. The symptoms of anæmia were extremely marked when she came under Dr. Silbermann's care on February 2; and no improvement followed the administration of iron. Subcutaneous injection of blood was performed on February 26; 54 grammes being taken from the mother's arm, and 25 grammes injected in each thigh of the patient. No ill effects followed, and the patient's condition improved forthwith, all the symptoms of anæmia disappearing. In this case also the cure was permanent.

12. Apparatus for transfusion of blood.

Dr. William Walter (*British Med. Jour.*, 1884, ii., p. 1,253) describes a modification of M'Donnell's transfusion apparatus. It consists of a glass tube sufficiently large to hold four ounces of fluid, one end drawn to a point being connected with a small Higginson's syringe, to the distal end of which is fixed a probe pointed silver cannula. Defibrinated blood is used.

Mr. T. W. Carmalt Jones (*British Med. Jour.*, 1885, i., p. 1,198) has invented an apparatus in which the propelling force is given by a valved hand-bell connected with the upper part of the receiver, so that the blood has not to traverse the length of tubing as well as the pump, as in Walter's apparatus. [Our readers should refer to these articles for the details of the apparatus, which are well shown in the illustrations accompanying them.]

See also *British Med. Jour.*, 1885, i., p. 413, for a description of **Dr. Casse's** apparatus, where the defibrinated blood is allowed to flow into the vein of the recipient by the action of gravity; the cylinder containing the blood being held at a higher level than the recipient's arm.

MEDICAL DISEASES OF CHILDREN.

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1. Intestinal catarrh of infancy.

Dr. W. A. Northridge (*New York Medical Journal*, Aug. 29, 1885) speaks highly of the following prescription, every two hours, for a child of six months or over. *Acidi salicylici*, gr. iii., *cretæ præparatæ*, gr. ii., *syrupi simplicis* 1 fluid drachm. He records eight cases of rapid cure under this treatment.

Roth employs (*Rev. des Mal. de l'Enfance*, quoted by *New York Medical Journal*, Sep. 19, 1885) in gastric catarrh, sulphate of iron 1½ gr., mucilage of acacia and syrup, of each 5 drachms. A teaspoonful every two hours. Under this remedy the evacuations become natural in colour and odour; it constricts the turgid mucous membrane and coagulates albuminous matters.

Dr. Illingworth says (*Lancet*, August, 1885, p. 268) that in cholera infantum the following usually cures in a few hours. *bismuthi* ʒss, *glycerini* ʒiii., *chloralis* ʒss, *tinct. belladonnæ* ʒxv. to ʒxxx., *acid carbolic* ʒx., *aq. ad* ʒii. A teaspoonful every two or three hours.

Dr. Ryan is enthusiastic (*Amer. Pract.*, May, 1885) over *belladonna*, which will, in his opinion, infallibly at once arrest both vomiting and diarrhoea.

Dr. Guaiata recommends, in summer diarrhoea (*Allg. Wien. Med. Zeitung*, May 26, 1885), a purge of calomel or jalap, followed by four to six grammes of benzoate of soda in the twenty-four hours for two successive days. The process may be repeated in a milder form. No food, but only lemonade and wine, except for infants at the breast, who are to be suckled every six hours. He had no death in fifty-three cases so treated.

2. Chronic gastro-intestinal catarrh.

Baginsky (*Berl. Medizin Gesellschaft*, Jan. 21 and 28, 1885) lays stress on the following points:—

If stools are copious and contain much undigested food, frequent irrigations of the large bowel with one or two pints of warm water or solution of common salt always give good results. If stools contain many leucocytes and much mucus, Carlsbad water (half a wineglassful three times a day) is indicated. Astringents may be given when thin slimy stools are being passed. The author does not think peptonised milk of much service. Of other internal remedies, he has used with success resorcin (5-15 gr. in syrup of orange), or calomel in $\frac{1}{4}$ gr. to $\frac{1}{2}$ gr. doses three times a day.

3. General management of diarrhœa in infants and children.

If we compare the present with the past methods of treatment of the affection, the most notable point will probably be the discarding of the use of astringents, at any rate, during the early stages. Dr. George Johnson's plan of administering castor oil in cholera tended to turn the attention of practitioners to the application of a like method in the treatment of the common and oftentimes severe and dangerous diarrhœa of the early periods of life. In practice there was much evidence of success. In the out-patients' department of our hospital I find that the administration of twenty or thirty drops of castor oil suspended in mucilage or in glycerine and lime water, repeated two or three times a day, or a simple rhubarb and soda mixture, constitutes, in a large majority of instances, a very successful form of medicinal treatment. In a minority of cases, however, there has been such a rapid and extensive flow of fluids from the bowel that I hesitate to adopt any plan which may have the effect of draining still more from the very insufficient volume of circulating blood. In these the plan of cautiously and gradually administering enemata of half a pint to two pints of warm water, containing from a quarter to a half per cent. of common salt (as recommended by Baginsky) comes with good chances of success. This eliminant treatment reposes on a sound physiology, for the intestines in the disorder contain irritating particles of undigested food, vitiated secretions, and epithelium and mucus derived from the lining membrane of the bowel, and all these are provocatives of the morbid peristalsis. The success of belladonna may be due to the fact that it has aperient as well as anodyne qualities. It is to be noted that some of the agents recommended in the preceding paragraphs are antiseptics, and it is probable that these exercise a beneficial influence, seeing that

multitudes of micro-organisms exist in the intestines in cases of summer diarrhœa. In all cases the management of the diet is of the highest importance. The most likely elements to irritate the gastro-intestinal tract of an infant are those which contain starch. It is best to entirely exclude starch from the diet whilst an infant is under treatment for diarrhœa, and to give diluted milk or broths thickened with gelatine. Fresh, pure air is also a very important adjunct of treatment. I am informed that at the time of prevalence of summer diarrhœa in New York a steamer periodically takes a large number of poor children for a cruise, and that since the plan has been adopted there has been a great diminution of the intensity of outbreaks. Dr. Goodhart (*Students' Guide to Diseases of Children*, p. 47) advises in severe and rapid cases the immediate administration of a warm or mustard bath, the warmth being subsequently kept up by blankets or hot bottles. In cases, however, which manifest a very high temperature the tepid bath, or a bath of 85° to 90° gradually lowered to 80°, is to be employed at frequent intervals. If vomiting precludes the administration of castor oil, half grain doses of hydrargyrum cum cretâ or one-sixth grain doses of calomel should be given every hour for three or four doses. Stimulants in the form of brandy (twenty to thirty drops) or rectified spirit (and the latter is much to be preferred for moral reasons in the case of hospital patients) or ether, two drop doses in syrup, are to be administered. In the worst cases a speedy temporary rally may be obtained and time gained by a subcutaneous injection of ten drops of brandy diluted with water. In cases associated with considerable fever and a thickly furred tongue, after a preliminary dose of castor oil, a simple alkaline demulcent mixture may be given with advantage, and with this may be associated a few drops of ipecacuanha wine. In some cases a minute dose of Dover's powder, with bismuth, relieves the pain in the abdomen and procures sleep.

It is a general consensus that opium, if used at all, must be administered in very small doses, and with great and watchful care.

4. Ulceration of the bowels in young infants.

Dr. F. P. Atkinson (*Practitioner*, April, 1885) treated a child, two years and eight months old, suffering from continuous diarrhœa, vomiting after each meal, marasmus, slimy purulent motions, and enlargement and distension of stomach, thus:—

First indication, to give light and easily digestible food that would leave but little waste. Two tablespoonfuls each of whey and barley water and one of cream were given at each feeding, to which were subsequently added 1½ ounces milk, 4 teaspoonfuls

of Brand's liquid essence of beef, the white of four eggs, beaten up in water, and 2 ounces finely minced raw meat per diem. The body was oiled night and morning, and the loins, stomach, and feet kept warm with flannel.

Second indication, to alter the secretions, was fulfilled as follows:—Liq. potassæ, ℥i., ol. ricini, ℥viii., tinct. opii, ℥ $\frac{3}{4}$, syrup zingib, ℥xx., mucilag ʒss, taken three times daily.

When the evacuation of pus and slime gave way to simple relaxation, the prescription was sodæ bicarb. gr. ii., bismuth subcarb. gr. iii., tinct. opii ℥ $\frac{1}{2}$, tinct. catechu ℥v., tinct. rhei ℥ii., tinct. card. co. ℥v., in syrup and mucilage every four hours.

Third indication, to improve the condition of the blood, was fulfilled by prescribing ℥x. of concentrated syrup of lactophosphate of lime and iron in water three times daily.

Of the combination of castor oil with laudanum to alter secretions, Dr. Atkinson speaks in the highest terms. The case, which was the worst he had ever seen, made an excellent recovery.

5. Cocaine in coryza and as a calmative in teething.

Dr. Semtchenko (*Vratch*, No. 7, 1885) records the treatment of coryza in children by dropping 2 drops six times in twenty-four hours of 2 per cent. solution of cocaine into the nose. He recommends the use of an ointment to avoid its flowing down into the fauces. He also used a 2 per cent. solution internally with good results, in vomiting and diarrhœa of children.

Vigier (*Gazette Hebdomadaire de Médecine et de Chirurgie*) recommends the following to be rubbed on the gums several times daily: Hydrochlorate of cocaine, 1 $\frac{1}{2}$ gr., tincture of saffron ℥10, syrup ʒiiss.

6. Whooping cough.

Goldschmidt describes (*Deutsche Med. Zeitung*, July 30, 1885) his mechanical method of treating this affection, for which he claims great success. It is based on the principle that the organisms of the disease, whose fall into the larynx at intervals causes the spasmodic cough, lie in the *nasal cavities*, and he syringes the nostrils out with a two ounce syringe, using a solution either of salicylic acid, 1 in 1,000, or of corrosive sublimate, 1 in 10,000, every two hours, *i.e.* six times during the day. Next day the process is done every three hours, and the disease is then usually cut short, *i.e.* provided the treatment is begun early before the bronchi have become implicated.

Dr. Illingworth has found (*Lancet*, April, 1885, p. 782) the wearing of picked oakum in muslin round the neck or on the chest very efficacious. He applies glycerine of tannin to the larynx two or three times daily, and internally orders 1 to 3 gr. of chloral,

1 to 3 minims tincture of belladonna, one gr. alum, 1 minim carbolic acid in syrup every two or three hours. He also uses a liniment of turpentine, acetic acid, and yolk of egg, mixed with lin. belladonnæ 1 to 7, applied to the chest, back, and neck night and morning.

Roth (*Memorabilien*, *New York Med. Journ.*, Sept. 5, 1885) recommends the following treatment:—Carbolic acid, alcohol āā, $7\frac{1}{2}$ gr.; tincture of iodine, 5 drops; peppermint water, 750 gr.; tincture of belladonna, 15 gr.; syrup of diacodium, 150 gr. A teaspoonful every two hours until the paroxysms entirely disappear.

Dr. Keating recommends (*Phil. Med. News*, Feb. 28, 1885) the use of a spray medicated with carbolic acid or thymol. As an emetic to remove viscid mucus he commends alum.

Dr. Magruder (*Am. Journ. o Obstet.*, Feb., 1885) has successfully employed chloride of gold and sodium in $\frac{1}{48}$ gr. doses every two hours in a case of pertussis, when all ordinary remedies had failed. The effect was produced in a few hours.

According to the *Lancet* (July 4, 1885) Brazilian doctors employ a tincture from the bark of *Erythrina corallodendron* (N.O. Leguminosæ) in whooping cough. Dose, one or two grammes per diem. A fluid extract is also used, two to four grammes per diem.

7. General management of whooping cough.

Dr. Goodhart (*Students' Guide to Diseases of Children*) considers that in the primary catarrhal stage few remedies are of more value than simple expectorants; he gives a mixture containing ipecacuanha wine, compound tincture of camphor, nitrate of potash, and oxymel. Often a little dilute nitric acid, though not specific, is useful. This is all that we can do for the first ten days or so. All drugs fail to cut the disease short in most cases, but some are of considerable value in controlling it. Far before all others is belladonna. Ten or twelve drops of the tincture may be given to a child three years old to begin with, and the dose may be increased to twenty drops or more, if necessary, every three or four hours. Infants of five and six weeks old will take four or five minims easily, and with relief to the violence of the cough. Quinine does some cases good, but must be given in somewhat large doses, as much sometimes as two to three grains three times a day. Benzol may be used with advantage, but it is very difficult to make palatable, and it occasionally causes sickness. Carbolic acid, both when inhaled and when administered internally, is of doubtful benefit. Alkalies are very useful. A few grains of carbonate of potash may be administered every few

hours, or carbonate of soda may be combined with belladonna. Alum, without doubt, occasionally controls the disease. The bromides of ammonium and potassium and chloral are highly useful in some cases, and the succus hyoscyami may in some be employed with advantage. Food should be fluid, and in some cases may be peptonised with good results. An occasional emetic in the earlier days of the whooping period is useful. In the later stages friction to the spine is recommended, and, in the chronic, few things act so satisfactorily as change of air.

There is a large amount of evidence in favour of the view that pertussis is due to the operation of micro-organisms; but it must be confessed that the treatment based on such hypothesis can point to no very marked record of success. It may be that the difficulty lies in getting at the habitat of the parasites, especially in the case of infants and children. Moncorvo (See "Year-Book of Treatment," 1884, p. 106) located them in the larynx, and advised the application of a solution of resorcine by means of a brush to the glottis. Goldschmidt, as we have just seen, locates them in the nasal passages, and advises syringing with antiseptic solutions. It is needless to point out the difficulty of putting in force either of these processes in our little patients, and it is very questionable whether the rude interferences would not provoke more spasmodic phenomena than they would control. It is by no means proved, however, that gentler methods may not be successful. For instance, resorcine or salicin might be introduced as an ointment in small pellets into one of the nostrils during sleep, and either might be administered with glycerine. Cocain may be used in this manner with advantage, or it may be combined with the former agents. Carbolic acid is perfectly useless when employed as a moist inhalation, but when used as a dry vapour, as given off by Calvert's domestic carbolic vaporiser, or Savory and Moore's vaporiser, it has seemed to me to have possibly some effect in shortening the duration of the disease, as well as in limiting the contagion. The difficulty is, that at first the cough is provoked, and in many cases the treatment is not persevered with. I am strongly of opinion that alum, in $2\frac{1}{2}$ to 10 grain doses, is useful in all stages of the malady, and that chiefly by its astringent, and so anæsthetic, effect upon the fauces. In many cases the treatment of the secondary conditions, rather than of the spasmodic affection, is of the greater importance. In those which are attended with decided broncho-pneumonia, or where temperature is generally or frequently elevated, when there are listlessness and prostration, when the countenance is dusky, and perhaps there is some œdema, it has seemed to me that quinine is

most beneficial, but I employ it in larger doses than recommended by Dr. Goodhart. Five and even 10 grains, accompanied by 1 or two grains of hydrargyrum cum cretâ, are given once in the twenty-four hours, either in milk well sweetened, or in melted jelly, or enclosed in well moistened wafer paper, the surface dusted over with sugar. It is important to obtain the antipyretic effect, and this is not to be accomplished with a small dose; 5 grains may be given with perfect impunity even to an infant. Change of air, especially to the pure freshness of the seaside, often expedites recovery in a marvellous way.

8. Scurvy.

Mr. W. E. Green (*Practitioner*, Sept., 1885) records two cases of infantile scurvy, apparently produced by prolonged use of artificial farinaceous foods. The foods were ordered to be discontinued, and grape-juice given as containing plenty of potash salts, and being more palatable to children than lemon-juice. In one case a grain of grey powder was given every other night. In the first case, a very severe one, a milligramme each of arseniates of strychnine, iron, and quinine, and of ferrocyanide of quinine, and a centigramme of hydrobromate of quinine, were given six times a day.

9. Infantile paralysis.

Dr. L. Petrone records (*Therap. Gaz.*, Dec., 1884) cases of infantile paralysis in which electricity, massage, iron, silver nitrate, etc., having failed, strychnine in 0·001 doses was given in two pills daily. It produced marked benefit in thirty-four days, and complete cure in fifteen more in the first case; and cure in sixty-six days in the second. The muscular atrophy gradually disappeared.

10. The phosphorus treatment of rickets.

Meyer (*Inaug. Diss.*, Kiel, 1885) has investigated the phosphorus treatment of rickets in forty-two cases, and his results support strongly the views of Kassowitz (see "Year-Book of Treatment," 1884, p. 110). In twenty-seven cases, digestive troubles were at once removed; in twenty, the general condition showed marked improvement; in six, severe bone-pains disappeared; in fourteen, the ends of the bones became perceptibly firmer; in three, a fracture healed in very short time; in eleven, cranio-tabes was quickly removed. Bronchial catarrh and asthma were cured in a few days. The shortest period requisite for cure was one month, and the longest five months, the majority recovering in from three to four months. The quantity of phosphorus used was 1 centigram. (about $\frac{1}{6}$ of a grain) in ten days, the smallest amount used being 3 centigrams., and the largest 12 centigrams.; the

drug was given as 0.1 per cent. solution in cod liver oil or in emulsion.

Hochsinger (*Wiener Med. Blätter*, 1885, No. 5) reports 487 cases of rickets treated by phosphorus, of which forty-seven cases showed an extraordinary improvement; 192 a very good, and 236 a good result, while in twelve cases the progress of the disease was retarded.

Soltmann (*Jahresb. d. Wilhelm-Augusta Hospitals in Breslau*, 47, p. 3), has given phosphorus in seventy cases. In all there was at first an improvement in the general condition, in the nutrition, and in the muscular power, before any change in the bony framework. Soltmann believes that the influence of the phosphorus on the bones is not direct, but only by causing a better metamorphosis of food-stuffs.

Heubner (*Jahrb. f. Kinderheilk*, xxii., 179, 191) also speaks in favour of the phosphorus treatment.

The value of phosphorus in rickets is confirmed by **Tedeschi**, who has tried it in sixty-five cases. He considers it acts by contracting the small vessels of the bone.—*Rev. Venet. di Scienze Med.*, May, 1885.

Schwechten (*Berl. Klin. Wochenschr.*, 1884, No. 52) has given phosphorus in forty-one cases of rickets, and has observed eight deaths during the treatment (but not from the effects of the phosphorus), four cures, twelve cases were much improved, nine cases slightly improved, no relief was given in eleven cases, and in five the disease grew worse. Thus a favourable result occurred in twenty-five cases, and an unfavourable one in sixteen. Schwechten thinks that Kassowitz mistook the improvement, which will occur occasionally without treatment, for the effects of phosphorus.

Monti (*Wiener Med. Presse*, 1885, No. 17) points out that it is necessary, in estimating the value of the phosphorus treatment, to take into consideration, not merely one symptom, but all symptoms, and especially to notice whether the disease is progressing in other parts, while regressing in the part under special observation. He believes that Kassowitz has not been sufficiently careful in this respect, and that if properly observed, cases of rickets will show no absolute improvement under the phosphorus treatment.

Hryntschak (*Arch. f. Kind. Heilk*, Bd. 7, p. 2) reports twenty-four cases of rickets treated by phosphorus in olive or almond oil. In five cases improvement was noted, in ten the patient remained the same, while in seven the disease became more severe.

Dr. Kassowitz (*Semaine Médicale*, 6 Mai, 1885, p. 163), in his reply at the discussion on this subject, which took place at the Imperial and Royal Medical Society, at Vienna, in May, 1885, stated that his successful cases amounted to more than 1,224, and that besides his own and those of Rauchfuss, of St. Petersburg, more than 1,600 cures of rickets by phosphorus had been recorded. On the other hand the instances of non-success scarcely amounted to 110.

11. The general treatment of rickets.

It will be seen from the foregoing that the treatment of rickets by the administration of phosphorus, as advocated by Kassowitz, which I described, and the formula of which I published in the Year-Book of 1884, has been actively investigated and warmly debated during the past year. I may here mention that the essential point of the treatment is the internal administration of phosphorus in doses of about $\frac{1}{130}$ grain, which may be increased to $\frac{1}{36}$ grain, in oily or mucilaginous media twice or thrice daily; the hypothesis being that the agent when given in such doses tends to produce, in growing animals, such an effect upon the vascular channels of ossifying cartilage as to lead to the deposition of a compact layer of bone. When I read the evidence under the light of the experience of the disease, I am led to inquire whether the cases which have been adduced were rightly grouped under the one term, *rickets*. Without agreeing with the late Professor Parrot that syphilis is an universal cause of rickets, I am, nevertheless, convinced that there are many mixed cases of rickets and syphilis. Many observers in this country are inclined to the conclusion that crani-otabes is not a rachitic, but a syphilitic phenomenon. It is a legitimate question whether in some of the cases adduced the phosphorus may not have acted, like mercury or iodine, as an anti-syphilitic remedy. In any case, though it may have had a favourable influence, it is evidently not a specific, and Kassowitz does not claim such a position for it. But even giving all due weight to the numerical evidence adduced, I am not inclined to accord to the phosphorus treatment an indisputably high position. My practice at the North Eastern Hospital for Children, where I treat a very large number of cases of rickets, is to administer mercury and other anti-syphilitic remedies in all that present evidence of any conjunction with syphilis, to carefully regulate the diet, and generally to administer cod liver oil (sometimes in combination with lime salts, or with iron), and as a matter of routine in all cases presenting the general signs of restlessness, sweating, etc., and the thickenings about the centres of ossification which characterise rickets, to put in force what we may

term the *cold bath treatment*. This consists in, at first, sponging the infant (and feebleness is no contra-indication) with cool or cold water, in which sea salt has been dissolved, morning and evening. Afterwards, when the infant has been somewhat accustomed to this treatment, the sponging is followed by a dip in a cold bath. It is evident that this method does not produce any good result because of any anti-pyretic influence, for the temperature in rickets is generally subnormal. I cannot doubt that it is chiefly valuable as a reflex stimulus to the heart, promoting the glow of the surface, which we, as adults, are familiar with after our cold tub. The evidence is certainly to the effect that the cross and restless rickety infant, after its cold water treatment, soon becomes a comfortable sleeper, and the parents want little persuasion to continue what seems at first a rather heroic measure. I have put in force this plan in some hundreds of cases of rickets, even when the long bones have begun to curve, and I have never yet seen an instance in which recovery has not taken place. Of course, I do not claim that it is applicable to cases which present themselves in the later stages of the malady, when distortions have occurred and the bones are firm.

12. Laryngismus stridulus.

Prof. Widehofer recommends traction of the tongue and sprinkling the face with cold water during an attack. In intervals, bromide of potassium, 4 grains, gradually increased to 8, night and morning. (*Allgemeine Wiener Med. Zeitung*, quoted by *Dublin Medical Journal*, Feb., 1885.)

CONTINUED FEVERS.

By SIDNEY P. PHILLIPS, M.D., M.R.C.P.,

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1. Treatment of typhoid fever by mercurial inunctions.

Kalb (*Annales Méd. Chir.*, 1885, No. 1) claims great success in the treatment of typhoid fever in an early stage by *mercurial inunctions*. Mercury properly introduced into the system will, he believes, in many cases abort the disease. It is useless to administer it by the mouth, because owing to the ulcerated condition of intestine it will not be absorbed. He orders 15 grains of mercurial ointment to be rubbed into the abdomen on the first day for half an hour; on the second day, the same quantity to be rubbed into the inner side of the thigh; these inunctions to be repeated for six days. Internally he prescribes at the same time opium $\frac{1}{4}$ grain, and calomel $\frac{1}{2}$ grain, every five hours.

Under this treatment a fall in temperature, though only a temporary one, occurs on the second day, and after the eighth day the temperature usually falls to, and remains at, the normal; profuse perspiration and general improvement follow the reduction in temperature. He asserts that 80 per cent. of the patients treated with inunctions present a normal temperature within ten days, and believes that at least 50 per cent. of cases of typhoid would be aborted by this treatment.

Ebstein (*Lancet*, Oct. 18, 1884) agrees that the so-called abortive treatment by calomel is to be recommended.

2. Treatment of typhoid fever by naphthalin.

Rosbach, in a communication to the German Congress of International Medicine, reports that in some cases typhoid fever aborts on the fifth to the sixth day, and in others the temperature gradually sinks to normal under the influence of *naphthalin*, even though the spleen be enlarged. In one case, fever was entirely

absent for fifteen days under the use of naphthalin, and the temperature commenced to rise as soon as its employment was discontinued. In another case, naphthalin reduced the temperature after quinine and application of cold had failed.

Rossbach (*Berliner Klinische Wochenschrift*, 1884, No. 42) points out that naphthalin is only little absorbed by the stomach and intestinal canal, and its disinfectant effect is kept up almost to the extreme end of the bowel; possibly, therefore, its apparent power of cutting short enteric fever may be due to its destroying the organisms in the intestines on which the disease depends. Rossbach's prescription is purified naphthalin, white sugar, equal parts, 75 grains; oil of bergamot, $\frac{1}{2}$ drop. This is to be divided into 20 equal parts, and the whole to be given internally in 4 doses in twenty-four hours.

For other information as to naphthalin, *vide* section on Therapeutics.

3. Treatment of typhoid fever by ergot.

Dr. Amedée Chassagne, in the *Gazette Méd. de Paris*, 1884, Nos. 16—20, reports on the use of *ergot* in typhoid fever. He advises that 30—45 grains of freshly powdered ergot should be given daily; this can be well taken in tea or in soup; occasionally it produces vomiting, but this can be prevented by the addition of a small quantity of carbonate of soda.

His cases show that the ergot reduces the temperature and the pulse rate; it may also produce cyanosis of the face and a feeling of coldness in the feet; but is not on this account to be suspended, as these are evidences that the ergot is acting well. The treatment must be continued for at least eight days, as the effect may not be produced till this time, and it should be continued till convalescence.

The percentage of mortality among eighty-two soldiers thus treated was only 3·7.

4. Treatment of typhoid fever by liquor sodæ chloratæ.

Dr. J. C. Pearson (*Lancet*, September 19, 1885, p. 520) records the results of the use of *liquor sodæ chloratæ* in typhoid fever at Cape Colony. He found that when given at the very beginning of the illness, immediately after the chill, it appeared to modify and shorten the disease considerably, the cases lasting only about a fortnight, and in several patients the temperature fell at once on the administration of the liquor, and rose when it was discontinued. He was led to try it from the immunity enjoyed from infectious diseases by the operatives in bleaching works. He gives from $7\frac{1}{2}$ mimims to 15 mimims of the liquor sodæ chloratæ every four

hours, and continues the treatment so long as the temperature tends to rise. Of over a hundred cases so treated only one died, the mortality in neighbouring districts, where the liquor was not used, being very much higher.

5. Treatment of typhoid fever by oil of eucalyptus.

Mr. Kesteven (*Practitioner*, May, 1885, p. 344) describes the effect of the administration of *oil of euclayptus* in typhoid fever. His conclusions, based on its results in 220 cases occurring at Brisbane, Queensland, are, first, it steadily and permanently reduces the force and frequency of the pulse; secondly, it lowers the body temperature; thirdly, it removes the thick brown coating from the tongue; fourthly, the skin becomes soft and moist. He recommends 10 minims of the eucalyptus oil to be given every four hours. If it does not agree well with the stomach, $\frac{1}{2}$ a drachm each of aromatic spirits of ammonia, spirits of chloroform, and glycerine (the last entirely removing the rough resinous taste of the oil) should be added to it. Under this treatment the temperature often fell to normal, and remained normal by the tenth day, and the total mortality was only 1·8 per cent. Mr. Kesteven also used ice packings, and internal administration of stimulants freely in his cases.

6. Treatment of typhoid fever by sulphide of calcium.

Dr. J. R. Black (*Med. Times*, Philadelphia, Vol. xiv., p. 930) recommends *sulphide of calcium* in typhoid fever. After a mild mercurial aperient, he orders sulphide of calcium in $\frac{1}{2}$ grain doses, in pill or capsules, every three hours during the day and night, until the diarrhoea and other symptoms are relieved, which is usually about the twentieth day. The temperature is then normal, with afternoon or evening rises only. And he then discontinues all treatment. Since making use of the calcium sulphide he has not met with any cases of intestinal hæmorrhage. Seeing the effect of sulphide of calcium on pustular diseases, and for other reasons, he believes that it is inimical to animal life, and may destroy the microbe of enteric fever.

7. Treatment of typhoid fever by salicylate of soda.

Salicylate of soda in typhoid fever.—Dr. L. Breco (*Progrès Médical*, Jan., 1885) records the results of the treatment of typhoid fever, by Dr. Collard, at Liège, with sodic salicylate. His plan of treatment is to give 60 to 90 grains in two doses; the first at noon, the second within two hours of the first. By this means the evening temperature is much reduced: in slight cases this reduction may last as long as thirty-six hours. More

commonly the temperature rises again on the next morning, but not to the level of previous mornings. In very severe cases the temperature rises again the next morning higher than before. In these last cases a third dose of salicylate should be given about one a.m. The patient thus benefits in the mornings by the remissions of temperature which characterise the disease, and in the evenings by the artificially induced remissions.

With the fall in temperature occur amelioration of the general symptoms, a fall in pulse rate, and sometimes abundant sweatings, though unaccompanied by shiverings. It may be given by enema if vomiting occur, in water alone, in which it is freely soluble. Dr. Breco does not agree with Vulpian, that this mode of treatment disposes to hæmorrhages, and does not discontinue the administration should they occur; nor is it requisite to give it up in cases of dyspnœa or delirium. Cases with marked cerebral symptoms offer most resistance to the treatment, but even here the general symptoms improve.

Dr. Breco claims that after the treatment by salicylate of soda, when the disease has run its course, the patient is less exhausted, and becomes more rapidly convalescent than when treated in other ways.

Dr. Carey (*Med. Press and Circular*, Nov. 12, 1884, p. 424) records cases of typhoid treated in an early stage by salicylate of soda, in 10 grain doses every two hours; in both his cases the temperature and pulse rate fell to the normal within five days, and he suggests that the salt has an abortive action on the course of the fever. Similar cases are reported by Jenkins, of Monsal Fever Hospital, Manchester, and Mr. H. Desplats concludes, from the use of *salicylate of bismuth*, in twenty cases, that by its use more than half the cases of typhoid may be aborted. Dr. Breco asserts that his investigations somewhat supported this view.

S. Treatment of typhoid fever by quinine.

Dr. G. S. Hull (*Philad. Med. News*, Vol. xxvii., p. 538) maintains the necessity of giving quinine in *large* doses, in order to obtain its full effects in typhoid fever. He gives from 18 to 45 grains in one dose, and the cases he records showed a rapid fall of temperature. Dr. Hull considers that feebleness of heart action does not contra-indicate the use of quinine in large doses, and that diarrhœa is not aggravated; deafness and tinnitus are produced. He does not find that the quinine shortens the duration of the disease, and only orders it in cases of very high temperature. His formula for exhibition is quinae-sulphat. gr. xv—xlvi., pulv. glycyrr. ext. ʒi—ʒii: syrup simpl. ʒss. aq. ad. ʒi M., or instead of

the powder, Wyeth's compound fluid extract of liquorice may be used.

In some cases it may be administered as a suppository.

9. Anti-pyrin in typhoid fever.

It is in typhoid fever, more than in any other febrile condition, that anti-pyrin has been employed.

Its effect in reducing the temperature 1° to 3° is very constant, but there is no evidence that it can cut short the disease, or in any way shorten its duration. It should, therefore, only be given when hyper-pyrexia occurs, and when, by reducing the temperature, it will remove this source of danger to the patient. Its administration should not be continued for any long period, nor after the temperature has fallen to what is the usual temperature at that period of the fever. Its protracted administration may lead to cardiac debility. During its exhibition the temperature should be taken hourly, as sudden falls are apt to occur, and in other cases rapid re-ascent of the temperature with rigors and collapse.

It should not be given in any case where there is weakness of the heart's action. The dose should commence at 15 grains, and may be increased, if requisite, but should not exceed 30 grains. If there be a tendency to vomiting it should not be given by mouth, but by suppository, enema, or hypodermically.

10. Treatment of typhus fever by salicylate of soda.

Dr. Rosenblum (*Proceed. Kaluga Med. Soc.*, 1884, p. 29) states that he has obtained good results from the treatment of typhus fever by the administration of salicylate of soda in doses of 20 grains, repeated two or three times daily.

11. Treatment of typhus fever by kairin.

Pushkareff (*Ejened. Klin. Gaz.*, 1884, No. 26, p. 401), from observations on eight cases of petechial typhus, concludes that kairin lowers the temperature temporarily in all cases, but does not influence the course of the disease.

12. Treatment of small-pox by trichlor-phenol oil and carbolised oil.

Dr. Rosenblum (*Proceed. Kaluga Med. Soc.*, 1884, p. 33) finds painting with trichlor-phenol and carbolised oil of great value in small-pox. He claims for this treatment that it diminishes the pitting and scarring, and by disinfecting the discharge from the pustules, it lessens the liability to the spread of the disease.

13. Treatment of small-pox by sulphate of calcium lotion.

Surgeon-Major Peters (*Ind. Med. Gazette*, vol. xix., 1884, p. 137), from experience in several epidemics of small-pox, states

that by locally applying sulphide of calcium lotion to small-pox eruption, suppuration is prevented and secondary fever does not occur. He is confirmed by Surgeon F. Poynder (*Ind. Med. Gazette*, 1884, p. 245) from his own experience. Dr. Peters' formula for the lotion is :—Quicklime, $\frac{1}{4}$ lb. ; sulphur, $\frac{1}{2}$ lb. ; water, 5 pints. To be boiled in an earthenware pan, evaporated to three pints, and filtered.

14. Treatment of scarlet fever by boroglyceride.

Dr. Line (*Birmingham Med. Rev.*, March, 1885) steams all cases of angina by Man's inhaler or Lee's steam draft ; in children too young to gargle, the nose should be syringed out with some antiseptic solution, and boroglyceride yields the best results.

15. Treatment of scarlet fever by salicylate of soda.

Dr. Rosenblum (*Proceed. Kaluga Med. Soc.*, 1884, p. 33) recommends the internal administration of salicylate of soda and a half per cent. solution of trichlor-phenol in cases of scarlet fever in children.

16. Treatment of diphtheria by mercuric chloride.

Dr. Thallon (*Med. Times and Gazette*, Sept. 20, 1884), while doubting the use of *mercuric bichloride* locally in diphtheria, recommends its internal administration. Its power in arresting decomposition outside the body renders it possible that it may, when circulating in the blood, modify the septic process.

Dr. Jacobi confirms the value of this treatment. It should be given with tincture of muriate of iron and with glycerine and water ; $\frac{1}{40}$ grain of the salt should be given to each drachm of water, and as much as half a grain in the twenty-four hours. The condition of the false membrane must be the guide to continuing or increasing the remedy.

17. Treatment of diphtheria by cyanide of mercury.

Seledén, of Stockholm, recommends mercuric cyanide. He gives a teaspoonful of a solution containing $\frac{1}{10}$ grain to the ounce every hour or half-hour ; this treatment has been previously advocated by Dr. Erichsen, of St. Petersburg.

18. Treatment of diphtheria by tincture of iodine.

Dr. E. Adamson (*Practitioner*, vol. xxv., July, 1885) recommends tincture of iodine internally in diphtheria. It is said to promote separation of membrane, and to check its further formation. Within thirty-six hours of its administration there is improvement in every respect in the patient's condition. Of fifty-five cases thus treated, only two died. The dose for adults is 5 to 7 minims every hour, or every two hours, according to

circumstances, and for children from six to twelve years of age, 2 to 3 minims every two hours, in water, with syrup of orange or of quince, which is particularly well suited to hide the nauseous taste of the iodine.

19. Treatment of diphtheria by chloride of gold.

Dr. Linn recommends chloride of gold dissolved in distilled water for croup and diphtheria. The dose for a child two years of age is $\frac{1}{50}$ to $\frac{1}{30}$ grain every hour until relieved.

20. Treatment of fevers generally.

From the reports of a large number of observers we have now considerably increased knowledge concerning the action of anti-pyrin and other similar drugs.

Anti-pyrin.—Dr. Arduin (*Bulletin Général des Thérapeut.*, 1885, p. 241) sums up its physiological action as follows:—

- (1) It acts on the brain and medulla oblongata.
- (2) It may kill by paralysis of the heart.
- (3) It does not act on the hæmoglobin of the blood.
- (4) It increases the urine in quantity, but lessens nitrogenous elimination.
- (5) Its effect on arterial pressure is doubtful.

Action of anti-pyrin in febrile state.—Arduin, Denne, C. von Noorden, Muller, and others, agree that anti-pyrin produces a rapid and certain fall of temperature, with slowing of pulse; the fall of temperature varies in different diseases: in typhoid fever a larger dose is required to reduce the temperature than in phthisis or hectic fever; in erysipelas and typhus the temperature rapidly falls, but quickly rises again.

The slowing of the pulse is well marked, but is not always proportional to the fall in temperature.

Disadvantages of anti-pyrin.—I. *Vomiting* occurs in a few cases, but it does not continue on discontinuing the drug. Pusinelli (*Deutsches Med. Wochenschr.*, March 12, 1885) says that the vomiting is commonest in women. Where it occurs anti-pyrin may be given by enema, or hypodermically (*Rank Deutsches Med. Woch.*, No. 24, 1884). The author has observed that vomiting, though absent after the first doses, is apt to occur after repeated doses.

II. *Sweating* is often profuse in half to one hour after administration of large doses such as required in typhoid fever, but does not occur after the smaller doses necessary in phthisis. The sweating is less when given by enema (Bilschowsky), and may be lessened by previously giving atropin or agaracin in doses of .005 gr. (V. Honden, *Berlin klin. Woch.*, Aug. 11, 1884).

III. *Collapse*.—This is a serious danger in treatment by anti-pyrin. Mr. Blore (*Lancet*, Feb. 28, 1885, p. 382) records a case of fatal collapse after 35 grains in one dose followed by 18 grs. three hours later, in a patient suffering from puerperal pyæmia. Denne reports fatal collapse in one case of typhoid and one of diphtheria; and Goetze (*Zeitschrift f. klin. Med.*, ix., 3), a case where the temperature fell rapidly only to rise again with rigor and fatal collapse. Bilschowsky also records a rigor and rapid re-rise of temperature with fatal collapse.

IV. *Cutaneous eruptions* may appear in typhoid and other cases; the appearance of the eruption varies; in most cases it was of general distribution; in some cases resembled measles; it usually lasted about five days, and sometimes faded away without discontinuing the drug, but occasionally after fading away, when the anti-pyrin had been stopped, it re-appeared on resuming its exhibition.

All observers agree that the rash does not necessitate alteration in treatment.

Pregnancy does not exclude the use of anti-pyrin, F. Müller having given it with success in a case of eight months' pregnancy.

Albuminuria does not contra-indicate it. Arduin (*Bulletin des Thérap.*, 1885) observed in two cases—one of acute and one of chronic nephritis—that the anti-pyrin appeared in the urine, and that in both cases the albumen seemed to be decreased in quantity.

Mode of administration.—Anti-pyrin dissolves in half its weight of warm water, and remains dissolved on cooling. It can be given in aqueous solution by mouth; the dose in phthisis and hectic is small, as it is important to avoid sweating; in typhoid the dose required is large. Arduin gives 15 grains every three hours; in Germany as much as 75 to 120 grains have been given, but these large doses predispose to collapse and asthenia, and 30 grains should not be exceeded. In children's febrile diseases, M. Huchard finds anti-pyrin very efficacious: the author has found the same. For a child up to one year old not more than 3 grains must be given; from one to five years, $7\frac{1}{2}$ grains is the maximum. Arduin recommends 3-grain doses at one year of age, and an increase of 3 grains for each additional year of life in children.

If vomiting occurs, an enema may be given of four times the amount given by the mouth, or a hypodermic injection of the strong aqueous solution. (Huchard.)

Contra-indications to anti-pyrin.—(1) Whenever there is cardiac debility, and for this reason in all, or nearly all, cases of diphtheria. (R. Denne.)

(2) In some cases, where there is idiosyncrasy, patients are extremely sensitive to anti-pyrin, especially children. Huchard says tolerance is set up even in children. R. Denne says the contrary.

Mode of action.—Arduin believes it acts on the thermogenic centres, which preside over and regulate the production of heat, for in no other way could it act so energetically and certainly.

Comparison between quinine and anti-pyrin.—Anti-pyrin is less liable than quinine to produce headache, tinnitus, or vertigo.

Anti-pyrin is soluble in water, and is less irritating than quinine.

After quinine the patient feels stronger than after anti-pyrin. (Ernst.)

Comparison between anti-pyrin and kairin.—Brondardel and P. Loye, in a communication to La Société de Biologie, show that kairin, besides reducing the body temperature, acts on the blood, altering gravely the hæmoglobin; the blood becomes chocolate in colour, and the spectroscope shows destruction of hæmoglobin. M. Conscience (*Contribution à l'Étude des Propriétés de Chlorohydrate de Kairin*) affirms that in animals the amount of carbonic acid given off lessens proportionately with the fall in temperature, and that the excretion of urea by the urine rapidly declines. Anti-pyrin, in addition to its absence of action on hæmoglobin of the blood, is less likely to produce chills and collapse, and its effect is more lasting. (Pusinelli, *opus cit.*)

Administration of anti-pyrin and kairin together.—Mingazzini (*Gaz. degli Ospitali*, No. 104, 1884) recommends that anti-pyrin in 20-grain doses should be given alternately with kairin in 15-grain doses, at intervals of $1\frac{1}{2}$ hours for four doses. A greater reduction in temperature results than from the use of either drug alone; the temperature remains lowered as long as after anti-pyrin alone, and the subsequent rise proceeds more slowly. The sweating—to which Mingazzini attributes the fall in temperature—is more profuse than when kairin or anti-pyrin alone is used.

The anti-pyretic action of *thallin* has been investigated by Jacksch, and reported upon by C. Alexander (*Centralblatt für klin. Med.*, Feb. 7, 1885), and by Maragliano (*Gazetta degli Ospitali*, July 5, 1885); in typhoid and erysipelas, in doses of 4 grains, it reduces the temperature 1.5° or more in an hour, and by repeating it hourly the normal temperature is soon attained. Its action is greater the higher the temperature of the patient. Thallin is less often vomited than anti-pyrin, and is effective in smaller doses; but rigors occur oftener than with anti-pyrin, and the temperature rises sooner.

Hydrochinon.—**P. Herfert** (*Berl. klin. Woch.*, No. 29, 1884) finds that the hydrochinon ($C^6 H^6 O^2$) lowers the temperature in a quarter of an hour, with retardation of pulse and profuse sweating. Its action is rapid and certain, but is less lasting than that of quinine.

For further information on anti-pyretic drugs, see Section "Therapeutics."

Digitalis as a cardiac tonic in fever.—**Dr. Brunton** and **Dr. Cash** (*Practitioner*, Oct., 1884) show that the vagus inhibitory cardiac centre in the medulla loses its restraining influence in the pyrexial state, and that, therefore, digitalis, which produces its effect through this centre, fails to exert itself actively in fever. **Dr. Groombridge** (*British Med. Jour.*, July, 1885) suggests, therefore, that when digitalis is given as a cardiac tonic during fever, it should be combined with quinine or other anti-pyretic.

Dr. Brunton gives a caution against pushing digitalis to slow the pulse in fever, as its action is only suspended during the elevation of temperature, and the effect may be marked when this ceases.

Caffeine as a cardiac tonic in fever.—**Jacobi** (*Archiv Pedriab.*, vol. ii., 1885) recommends bromide or citrate of caffeine (mii—miii), frequently repeated, as a cardiac tonic in fever in children; it regulates the heart's action, increases arterial pressure, and promotes diuresis. Its action is more rapid, but less lasting, than that of digitalis.

Glycerine as a local application to the mouth.—**Surgeon-major Cotter** (*Ind. Med. Gazette*, Jan., 1885) recommends painting the tongue with glycerine to relieve distressing dryness and thirst; it acts either by increasing the secretion from the mucous membrane or by making an artificial coating.

Musk is strongly recommended in adynamic fever (*Therap. Gazette*, July, 1885). Ten grains should be injected per rectum, suspended in 1 oz. mucilage of acacia, with 10 to 20 drops of laudanum, to secure its retention.

21. Summary.

Since the issue of the last *Year-Book* the most noteworthy addition to our knowledge of the febrile state has been contributed by **Dr. W. M. Ord**, in his presidential address to the Medical Society of London. It has been shown by **Dr. Burdon Sanderson** (*Rep. Med. Officer of Privy Council*, 1875) that in fever there is no increase of heat production. **Liebermeister** and **Leyden** have found also that there is no retention of heat in the body, but that, on the contrary, it is discharged from the body in fever more freely than in health. Reasoning from these data **Dr. Ord** was

led to suggest that increased body temperature results from the heat produced by the destruction and disintegration of tissues accumulating in the body, because not used up, as in health, by the formation of new tissues, which process is probably accompanied by the absorption of heat. That, in fact, the pyrexial state is mainly due to the fact that new tissues are not built up to replace disintegrated tissues, and that the heat which should have been used up accumulates in the body, and raises its temperature. Dr. Ord's hypothesis, that heat disappears in the process of tissue formation, is supported by his observations on growing fruits, by which he has shown that the temperature of growing parts is, as a rule, lower than that of parts of the same fruit which have ceased development. Dr. Ord's investigations and conclusions bear on the practical treatment of fever. If "increased bodily temperature be due to persistence in the form of heat, of energy which should have taken another form," one indication in the treatment should be to use up this increased heat, and the practical benefit of the cold bath treatment may in part be thus rationally explained.

The good effects of the cold bath treatment are for the most part acknowledged. **Ebstein** (*Lancet*, Oct. 18, 1884) regards them as of great value for their stimulant effect, and employs them when other means have failed.

Collie (*British Med. Jour.*, Dec., 1884), from his experience of the cold bath in typhoid and other fevers, concludes it is useful in mild and in some severe cases, allaying restlessness and giving sleep; but he believes it has no effect on the general mortality.

Dr. Ord (*locus cit.*) expresses the opinion that baths act in some other way than merely by abstraction of heat. Experimental tests showed that in cold baths the living body lost heat more rapidly than the cadaver previously heated to the same temperature; probably "large applications of fluids of various temperatures to large surfaces of the skin come in as moderators"; and their main beneficial use consists in "attracting, so to speak, the attention of the nervous system, and drawing it off from certain pernicious paths upon which it has embarked."

On the other hand, the value of the cold bath is disputed by **Gläser** (*Deutsches Med. Woch.*, No. 12, 1885) from comparison of the results of treatment of a large number of cases of typhoid fever with and without cold water applications. Of his last 402 cases treated without cold water only three died, and he believes the cold water treatment has raised the mortality.

That the cold bath treatment does rapidly produce a fall in temperature in cases of typhoid and other fever cannot be dis-

puted; its actual effect on the rate of mortality cannot at present be definitely stated. In some epidemics there is a marked tendency to hyperpyrexia; in others, other severe complications are more liable to occur. In the former class of cases no doubt the cold water treatment is of much service; in the latter it is at present doubtful whether it reduces the death-rate. A practical point in the routine treatment by cold water is to choose for its use, when possible, not the time when the temperature tends to rise, but when there is the greatest natural tendency to remission. Of course, should exceptional circumstances require it, such as a temperature so high as to threaten immediate danger, the cold bath should be used at once.

Anti-pyretic drugs.—The action of each of the various anti-pyretic drugs has been discussed under their special heads. Comparing their action, quinine has advantages, such as the absence of any weakening action on the heart, but takes long to act, and is liable to produce vertigo, tinnitus, and headache.

Salicylate of soda is less certain, and has a more depressing effect on the heart.

Anti-pyrin and other artificially prepared drugs act more rapidly than quinine or the salicylates, but have all of them disadvantages which have already been pointed out.

Anti-pyrin has been the most generally used, and is very constant in its action on the temperature of the body, but there is no evidence that it can shorten in any way the course of typhoid or other fever, and its incautious or prolonged administration is liable to lead to sudden fatal collapse, or to death by gradual asthenia.

It should be given therefore only when the temperature reaches such a height as to constitute a danger in itself—a point which cannot be fixed by any arbitrary limit, but varies with each disease and at different epochs in the same disease.

Abortive treatment.—It will have been seen that there are several remedies for which has been claimed the power of cutting short typhoid and other fevers; amongst them are mercury, eucalyptus, salicylate of soda, &c. The statements of their advocates are given in the text.

GENERAL SURGERY.

PART I.

BY THOMAS BRYANT, F.R.C.S.,

Surgeon to, and Lecturer on Surgery at, Guy's Hospital.

1. The treatment of wounds.

No great novelties in the treatment of wounds have been introduced into practice during the last year, and the conclusions which I deduced from the records of the past have been fully confirmed by recent experience. The aim of the surgeon is now, as it was then, "to find a light, cheap, and effective *absorbent* antiseptic dressing to take up the fluids poured out from a wound, and, at the same time, to preserve them from undergoing chemical, and consequently septic, changes"; a dressing that will "inhibit the development of, if not destroy, the germ element." The spray is far less used than it was during operations; if report speaks truth, it has been given up by Sir J. Lister, and antiseptic irrigation is taking its place everywhere. Corrosive sublimate is freely employed to wounds, but is not spoken of in such enthusiastic terms as were employed at its introduction. It is a good antiseptic under certain conditions—as when impregnating that excellent absorbent, wood wool—but it is not superior to many others. Peat-moss has had its advocates, and iodoform, in some of its forms, has certainly gained ground. I use it now, as I have for years, as a primary dressing to most, if not all my operation wounds, in the form of gauze, and increased experience makes me more satisfied with its value. As a form of iodine dressing, it follows well upon the antiseptic fluid I employ to irrigate my recent wounds, viz., iodine water, a mixture of the solution or tincture of iodine in sufficient quantities to make water of a light or dark sherry colour, according to the strength required; this iodine water being as useful for the irrigation of suppurating cavities as it is for fresh wounds.

The use of this antiseptic wash I find is spreading, and surgeons who regarded with disfavour antiseptic dressings as originally introduced are now employing it.

Prof. Mosetig-Moorhof describes (*Der Fortschritt*, Feb. 26, 1885) five methods of employing iodoform :—

- (1) Finely pulverised iodoform in a dredger.
- (2) Pencil of iodoform, made either with gelatine, which is elastic, or with gum or cocoa butter, which are rigid. These are used for introduction into sinuses.
- (3) Iodoform gauze (gauze soaked in 10 to 50 per cent. solution of iodoform in ether) for wounds.
- (4) In compound fractures, wounds of joints, and chronic abscesses, he uses an emulsion made of iodoform 10 to 50 per cent., glycerine and water equal parts, and tragacanth 0·25 per cent.
- (5) Iodoform 1·00, benzole 9·0, vaseline 11·0, and ol gualtheriæ 2 minims, injected in parenchymatous struma, and in lymphatic glands.

Dr. Goldfield (*Vratch*, No. 3, 1885, p. 38; *London Medical Record*, April, 1885) prefers powdered burnt alum as a dressing in wounds which are aseptic from the first. Where putrefaction has commenced, he uses burnt alum 4 parts, iodoform 1 part, which he considers superior to iodoform alone.

To obtain as perfect hæmostasis as possible is a desideratum which surgeons fully recognise as of importance in the treatment of all wounds; and with this object many means have been employed. I find that a sponge wrung out of iodine water, and as hot as can be fingered, answers the purpose, and gives the glaze to the surface of the fresh wound which is so agreeable to the surgeon's eye.

Dr. Theodore Varick (*New York Medical Journal*, Feb. 28, 1885), with the same object, in operation wounds, after the larger vessels have been tied, applies water a little below boiling point freely and continuously to the surface, until all oozing is stopped, the parts are thoroughly glazed, and the redness dulled. This coagulates the albumen of the blood serum while the vessels are still full, and consequently forms a protective layer before there is a chance of any septic absorption. In six years of this practice he has never had a case of septicæmia. It also mitigates shock, promotes reaction, and accelerates healing.

Dr. Marc Sée employs (*Revue de Chirurgie*, Feb. 10, 1885), with the same object, bismuth. Permanent antiseptic dressings of

wounds means a dressing applied immediately after operation, and left till the wound is healed.

Desired qualities—

- (1) As perfect hæmostasis as possible.
- (2) Absolute asepsis of wound.
- (3) Perfect drainage.
- (4) Sanguineous oozing reduced to a minimum, and rapid absorption of any liquids by the dressing.
- (5) Antiseptic action to be exercised by the latter upon the liquids which impregnate them, and so preventing decomposition.

The dressing which M. Sée has employed for three months has been a complete success. M. Sée is in the habit of placing a forceps upon the arteries as they are divided, and after the operation is completed, and while the forceps are replaced by catgut ligatures, the surface of the wound is covered with sponges impregnated with carbolic lotion. Every one knows that as soon as the sponges are removed, notwithstanding the care taken to secure the small vessels, there occurs a sanguineous oozing, which it is very difficult to arrest. M. Sée has found the following plan very efficacious: About a teaspoonful of subnitrate of bismuth is placed upon a piece of cardboard, and while this is held near the wound he blows forcibly upon the powder. The effect of this is to cover the bleeding surface with a thin layer of the powder, which causes the oozing of blood to cease. Besides this it has another advantage: the powder renders the wound perfectly aseptic, and so completes the action of the carbolic lotion. The small quantity of bismuth is absorbed very rapidly, and instead of offering any obstacle to immediate union, it appears to favour it in a decided manner. To prevent the retention of secretions, large but short drainage tubes, with numerous side openings, are employed. Whenever possible the wound is united by a double row of sutures. The deep sutures are tied over small pieces of iodoform gauze, which prevent mortification of the skin, and maintain the sutures perfectly aseptic. Catgut is used both for the superficial and deep sutures. It can be left in position for an indefinite time without injuring the tissues.

When the wound surfaces are united, the drainage tubes in position and perfectly permeable, the entire line of suture is covered by a narrow line of the bismuth powder, carefully surrounding each drainage tube with the same substance. Then, after having cleansed the surrounding parts, a pad formed of medicated cellulose, enclosed in carbolic gauze, is placed upon the

wound. The pad is about 3 cms. in thickness, and of sufficient length to extend 5 or 6 cms. above the line of suture. Cellulose or lignose (wood wool) is fir-wood divided into pieces, the fibres of which are separated by maceration in a solution of potash. It possesses enormous absorbent power. Mixed with glycerine and a corrosive sublimate solution, then dried, it forms an unapproachable dressing. Over the cellulose pad a thick layer of cotton wool is placed, and held in position by means of a bandage, and over this a rubber bandage is applied.

This simple dressing is generally left in position for eight or ten days, and when removed perfect union will be found. The deep sutures are removed, and the small orifices which they leave are covered with bismuth powder. In most cases the superficial sutures will have dropped out, their deeper portions having been absorbed. The scar is protected for some days by a layer of cotton wool. (T. Jones. Abstract in *Med. Chron.*, April, 1885.)

Rönberg (*Arch. f. klin. Chir.*, T. xxx., p. 377, 1884) has made a series of experiments upon dressings. He believes the three qualities desirable in a dressing are absorptive power, complete asepsia, and mechanical and chemical indifference (unirritability) to the edges of the wound. Of these he regards the first as the most important. His experiment consisted in putting a known weight of the material in a capsule full of water, squeezing out the excess, and weighing. His figures are as follows:—

Absorbent cotton, 25 grms. ; moss, 8 grms. 2 ; wood wool, 10 grms. 6 ; poplar sawdust, 7 grms. 3 ; fir sawdust, 5 grms. 3 ; gauze, 9 grms. 6 ; jute, 7 grms. ; coke ash, 2 grms. 1 ; cellulose cotton, 23 grms. ; wood cotton, 15 grms.

With another apparatus he has also determined the height of absorption of a liquid brought into contact with the lower surface of the material under experiment. The scale of absorption is as follows:—

(1) cellulose cotton, (2) damp moss, (3) wood cotton, (4) coke ash, (5) Walcher's wood wool, (6) mountain flax (*amine*), (7) charpie, (8) wood sawdust, (9) marine sand. Jute, tow, and dry peat (*tourbe*) do not absorb.

No substance is any good for a dressing that will not absorb at least 5 centimètres in height of liquid ; only wood sawdust, sand, and tow are below that limit.

The absorption by materials used for dressing is merely a phenomenon of capillarity, and is subject to the physical laws thereof, that is to say that it is all the greater the smaller the calibre of the capillary vessels. In the substances in question the

capillarity results from two conditions—viz., the proper porosity of each parcel of material (molecular capillarity), and the diameter of the spaces between the parcels, which depends on the fineness of division of the substance (capillarity by aggregation). The first of these factors is invariable; but the second is modified by pressure, a circumstance of great importance in dressings. It will be necessary to determine for each substance in particular the minimum degree of constriction that the bandage should exercise on the dressing.

The author has made out, with the aid of a solution of gum of blood density, that, save with sand and absorbent cotton, there is no fear of the formation of clots (*grumeaux*) in the substances experimented on.

Wood wool, wood sawdust, wood cotton, and cellulose cotton, are consequently the materials which offer the greatest promise of success. Rönberg briefly describes their manufacture, and, by visiting the factories, has convinced himself that they are prepared with absolute properties and complete asepsis.

Baerer (*Archiv für klin. Chirurgie*, Bd. xxix. pp. 413—692) publishes three years of Bosc's results at the Giessen Clinique. The dressing there adopted, which is highly eulogised, is the moist carbolic dressing of Bardeleben. Simple gauze compresses are immersed for twelve hours in a 3 per cent. carbolic solution, then, after their application to the wound, covered with a thick layer of cotton wool. Numerous cases are recorded, all tending to show the value of this dressing.

Bruns (*Deutsches Gesellsch.*, 1884, and *Archiv für klinische Chirurgie*, T. xxxi., p. 92) eulogises a dressing of sublimate with wood wool, the preparation of which has greatly improved, the product being now fine, white, spongy, very elastic, and very absorbent. The wound is covered with a layer of "coton de verre," then with pads of wood wool, and the whole kept in position with a bandage of gauze firmly bound. The dressings are not often renewed, and are stated to give a higher average of immediate unions than Lister's. This belongs to the class of dry dressings, which introduces a new principle into antiseptics, viz., the desiccation of wounds by absorption of secretions. The pads ought to be very thick, and all impermeable materials discarded.

It is claimed for the sublimate that it never produces toxic effects, prevents irritation of skin, diminishes suppuration, and is an efficacious bar to erysipelas. At Tübingen 550 major operations, with 10 deaths, all independent of dressing. No infectious disease; one case of tetanus, cured. Of 48 amputations (37 major), 32 healed by first intention. Thirty amputations of

breast give 25 primary unions. Of 22 resections of knee, 20 primary unions without secondary fistulæ.

Hofmohl (*Wiener Med. Presse*, No. 16, 1884) speaks well also of sublimated dressings, which he uses in two forms, dry and moist, the former for large wounds, the latter for small ones, when there is not much secretion.

(1) The *moist* dressings consist of six to eight layers of cotton wool, saturated in a $\frac{1}{100}$ solution, some impermeable tissue, more cotton wool, and a bandage.

(2) *Dry*.—After washing with a $\frac{1}{1000}$ solution, a single layer of gauze slightly impregnated with the same liquid is used, then a pad of wood wool, one of cotton wool, and a bandage. No impermeable tissue. Dressing remains eight to twelve days *in situ*. Sublimated catgut sutures, and sublimated gum drainage tubes. All wounds and pleura are irrigated with $\frac{1}{1000}$ solution, bladder with $\frac{1}{10000}$; 145 dressings have been used in his clinique since August, 1883; there have been no toxic effects, and no elimination of mercury by kidneys. The results are satisfactory.

Dr. Robert Park speaks highly (*Practitioner*, Sept., 1885) from experience of burnt kieselgühr and iodoform, to which a varying proportion of eucalyptus oil is added. Kieselgühr—white peat—is a diatomaceous earth; extremely light powder, absorbent, antiseptic, and is an excellent diluent for iodoform. With iodoform in equal weights, it is of service for either hard or soft sore.

2. Steam irrigation for foul wounds.

Mr. Leighton Kesteven (*Lancet*, Dec. 6, 1884) speaks highly of a method by letting an antiseptic steam spray play within an inch or so of foul wounds for an hour at a time. The antiseptic employed is eucalyptus oil. The spray is used twice daily till the wound is clean.

3. Hot air in foul wounds and chronic ulcers.

Dr. Eshelby (*Lancet*, Jan., 1885, p. 178) uses a box of well-seasoned wood, having three bottoms, about an inch above each other, and well perforated with holes. The lowest is of tin plate, the middle of zinc, the highest of wood. The wound is syringed with boracic acid and laid in the box, a spirit lamp is then put underneath, and the temperature raised as high as the patient can bear it for two hours. On removal, a piece of lint a little smaller than the sore is soaked in boracic acid and applied. Under this treatment the most obstinate cases of chronic ulcer have been cured.

4. Operations upon the stomach.

Some important suggestions for the treatment of contractions

of the orifices of the stomach have been advanced during the past year; and it is to be hoped that they may lead to a form of practice from which benefit may be expected in a hitherto almost hopeless class of cases. Thus on operative dilatation of the orifices of the stomach, **Mr. T. Holmes** publishes (in the *British Medical Journal*, Feb. 21, 1885) a summary of two papers by **Prof. Loreta**, of Bologna, on this subject: *Memoire dell'Accademia delle Scienze dell'Istituto di Bologna*, Ser. iv., vols. iv. and v). The operations are two:—(1) Digital dilatation of pylorus. (2) Instrumental dilatation of œsophagus. Two cases (successful) reported of each. The operations are intended only for chronic and non-malignant cases, and are substitutes for (1) pyloric resection, (2) gastrostomy.

The first operation is done as follows:—The stomach washed out with an alkaline solution. Incision about 15 centimètres ($5\frac{3}{4}$ inches) in right median line, commencing four centimètres below xiphoid cartilage, extending downwards and outwards to three centimètres from cartilage of ninth rib. Muscles divided and hæmorrhage stopped before opening peritoneum. Adhesions were separated and stomach set free, and drawn out of the wound. Pylorus found thickened and of fibrous hardness. A transverse fold of stomach was taken up and cut through with strong scissors midway between two curvatures about three centimètres from pylorus. This was enlarged to six centimètres in consequence of contraction and hypertrophy of muscular coat. The bleeding, which was considerable, was compressed by T-shape hæmostatic forceps. The right forefinger was introduced and pylorus found hard, prominent, and closed. The left forefinger was introduced to steady pylorus, and the end of the right was gradually squeezed through the aperture. The pylorus was hooked down towards the abdominal wound, and the left forefinger was then insinuated also through the orifice. An attempt to separate the fingers threw the stomach walls into violent spasm, which, however, ultimately yielded, and the dilatation effected until a sensation was experienced “showing that the tissue was so far distended that it could not obey the dilating finger further without being torn.” The fingers were kept apart for a short time about 8 centimètres (more than three inches) from each other.

The stomach wound was sewn up, the viscus returned, and the abdominal wound closed. Operation occupied thirty-three minutes. There was no rise of temperature; on the fourth day, thick soup; on the fifth, chicken was allowed; on eighth day, abdominal wound had united by first intention. From this time a meat diet was allowed. On the sixteenth day the patient got

up, and five months after the operation was in good health and at his ordinary work.

In the diagnosis of cases suitable for operation, all causes may be excluded by the history, except mechanical obstruction of pylorus and idiopathic gastritis. Cancer of pylorus is excluded by chronicity; so only non-malignant stricture remains. The diagnosis between these two conditions **Prof. Loreta** seeks in the character of the contents of the stomach. These, when allowed to settle in a glass vessel, separate into three strata; an upper one of frothy mucus, a middle one of serous fluid, and a lower either composed of "a granular humour greyish in colour, or mixed with a fine detritus of food imperfectly digested." In the first case the functional activity of the stomach is evidently operative, and the obstacle is clearly mechanical; in the latter the stomach is unable to perform its duties, and the dyspepsia is due to this cause. Further, **Prof. Loreta** states that the results of post-mortem examinations show that many cases diagnosed as carcinoma of stomach are really instances of non-malignant pyloric obstruction.

5. Dilatation of the gastric end of the œsophagus.

A case is recorded of a man who had an œsophageal stricture about the level of the fourth dorsal vertebra, due to swallowing a caustic alkali. An incision 15 centimètres (= 6 inches) long was made from the ensiform cartilage downwards, and somewhat to the left. When the lower aponeurosis of the rectus was reached the hæmorrhage was stanchèd, and the aponeurosis and parietal peritoneum opened. The stomach was drawn through the wound, and a longitudinal incision made between the two curvatures, with its upper end as near the cardia as possible. The end of the œsophagus being found with some difficulty, the stomach was drawn downward, and a dilator resembling that of Dupuytren for lithotomy introduced. This, measuring about eight inches from the joint to the end of the blades, which could only open to the extent of five centimètres, was then run up and down the œsophagus four times, dilating it to its full extent. The wound was sewn up and the stomach returned to the abdomen. Six hours after the operation the patient swallowed some soup with the yolk of an egg mixed in it, and recovery was complete in about eighteen days. Another case of a similar character also with a favourable result is recorded.

6. Resection of the stomach.

Von Hacker (*Langenbeck's Archiv*, Bd. 31, p. 616) gives an account of the operations on the stomach performed in Billroth's Clinique since 1880. In one case, Billroth, on the 15th of January of this year (1885), extirpated the whole of the pyloric

end of the stomach, and with it the duodenum for a cancerous growth, the stomach and the jejunum being joined together by sutures. Although the removal of the growth was very difficult (the operation lasted one hour and three-quarters) the patient recovered without any bad sign other than an obstinate constipation during convalescence, possibly due, it is thought, to compression of the transverse colon by the jejunum. Of eighteen cases of resection of the pylorus (including the above), eight survived the operation. One of these, in which only a cicatricial stricture was present, has completely recovered; and another, in which Billroth removed a cancerous growth, no return has appeared after a year and three-quarters. In each of the six other cases, return of the cancerous growth has taken place. It is worthy of note that of the first twelve cases operated on, eight died, but of the last six cases only two died.

7. Harelip pins in gastrostomy.

Mr. Macnamara writes strongly (*Annals of Surgery*, April, 1885) in favour of harelip pins for fixing the stomach in gastrostomy. "The stomach, having been exposed in the usual way, is drawn through the external wound with a pair of dressing forceps, the teeth of which are protected with pieces of india-rubber tubing slipped over them. The projecting portion of the stomach is then transfixed with two harelip pins placed parallel to each other, and about three-fourths of an inch apart. The margins of the abdominal wound, with the exception of the aperture through which the stomach projects, are afterwards brought together with sutures passed deeply so as to include the peritoneum; the result is that the stomach is maintained in position and prevented from slipping back by the ends of the pins, which press on the skin on either side of the wound. It will be found that the stomach becomes adherent to the abdominal walls in about a week." The opening in the stomach may be made as early as the third day if the condition of the patient demands it. This method is (1) absolutely secure; (2) speedily and easily effected.

8. Cholecystectomy.

M. Thiriar (*Rev. de Chirurg.* 5, 1885) records two operations, both completely successful, one in a woman of forty-three, the other in a woman in the fifth month of her pregnancy. He regards this operation as the least dangerous of all kinds of laparotomies, and as justifiable in all intractable cases of biliary calculous diatheses, and superior to the less difficult cholecystotomy of Lawson Tait, in that it avoids the somewhat dangerous result of a biliary fistula.

M. Trélat (*Progrès Médical*, March 7, 1885; *Med. Chron*, June, 1885) while removing a uterine fibromyoma, removed a portion of the fundus of the bladder. The vesical wound was closed with seventeen silk sutures, the serous surfaces being applied to one another. A catheter was left in the bladder. Death ensued from general peritonitis in thirteen days; but the bladder wound was found, *post mortem*, to be quite healed.

GENERAL SURGERY.

PART II.

BY FREDERICK TREVES, F.R.C.S.,

Surgeon to, and Lecturer on Anatomy at, the London Hospital.

1. Tetanus and cucaine.

Dr. Hermann Biggs (*British Medical Journal*, vol. ii., 1885, p. 611, note) concludes, from a series of experiments made with cucaine upon frogs, that this drug may be of use in the treatment of tetanus. He finds that it has a depressant action on the heart, that it depresses the reflex action of the spinal cord, and in large doses lessens immediately the irritability of the sensory nerves. It also has a depressant action upon the motor nerves, and diminishes the excitability of striated muscles. It is to be hoped the drug will be fairly tried in the treatment of this disease, but, having regard for the past, one is disposed to look with little favour upon drugs the action of which on the human body is purely speculative.

2. Odourless iodoform.

Dr. Oppler (*Centralblatt für Chirurgie*, July 25, 1885) claims to have introduced an odourless iodoform. The smell of iodoform offers a serious objection to its more general use, and it must be confessed that the attempts, up to the present time, to make this drug odourless have been but partially successful. In the mixtures of iodoform with Tonquin bean, with balsam of tolu, with oil of peppermint, &c., the peculiar smell of the drug is still to be observed. Dr. Oppler mixes the iodoform with finely powdered coffee, and maintains that by this admixture the odour of the iodoform is entirely lost. The powder is composed of one part of coffee to two parts of iodoform. The coffee should be fresh roasted, and must be very finely pulverised in a mortar. By the use of coffee powder also the ointment of iodoform can be rendered free from smell. Dr. Oppler maintains that coffee, as a local application, acts as a mild antiseptic.

Dr. Niven (*Medical Chronicle*, Oct., 1885) advises the following mixture:—Iodoform, ten parts; powdered coffee, thirty parts; vaseline, one hundred parts.

3. **Cucaine in surgery.**

The use of cucaine has not only been considerably extended during the past year, but the reliability of the drug as a local anæsthetic has been very substantially confirmed.

Drs. Schrötter (*Allgemeine Wiener Med. Zeitung*, 1884, No. 48), **Fauvel** (*Gazette des Hôpit.*, 1884, p. 1,067), and **Labus** (*Gazetta degli Ospitali*, 1885, vi., No. 2) speak in high terms of its value in affections of the larynx, pharynx, and œsophagus. **Dr. Stork** (*Wiener Med. Blätter*, 1884, No. 51), **Mr. Butlin** (*Lancet*, Nov., 1884, p. 975), and others deal with its value. In operative procedure upon the nose it has been used with much success in the removal of nasal polypi. In Mr. Butlin's case the actual cautery was applied to the mucous membrane without pain.

Dr. Weiss (*Wiener Med. Wochenschrift*, 1885, No. 1) cites a case of a scald on the eyes, in which the pain was at once relieved by a two per cent. solution of cucaine.

Dr. Bettelheim (*Wiener Med. Presse*, 1884, No. 45) reports a case of severe tenesmus and stranguary, due to enlarged prostate, in which the symptoms were perfectly relieved by suppositories of cucaine, after opium and belladonna had failed.

Mr. Bellamy (*Lancet*, Feb., 1885, p. 315) uses bougies of gelatine, containing $\frac{1}{4}$ gr. of cucaine, with excellent results, in cases of irritable bladder.

Mr. Edwards (*Lancet*, Jan., 1885, p. 220) removed six piles by the ligature in a woman, aged fifty, without actual pain after the use of cucaine. One minim of a four per cent. solution was injected into each pile at the muco-cutaneous junction, and the lower end of the rectum was then well painted with it.

Cucaine has also proved of the greatest value in the relief of obstinate cases of pruritus ani.

Dr. Simpson (*Lancet*, January, 1885, p. 226) removed two small nodules of schirrus from the breast without pain, after having injected three minims of a four per cent. solution of cucaine into the tissues on each side of the nodule.

Mr. Barford (*Lancet*, June, 1885, p. 1,033) uses cucaine in operations upon fistulæ. He employs a twenty per cent. solution. Plugs of cotton-wool are soaked in this solution, and are then inserted into the sinuses previous to operation. He has also noticed that the bleeding is slighter in such cases after cucaine has been used.

Drs. Randolph and Dixon (*Philad. Medical News*, Jan. 24, 1885)

speak highly of cucaïne as a means of lessening the pain in cauterisation. They assert that a saturated solution of cucaïne in nitric acid produces the same effect as the pure acid, although it acts more slowly. The only sensation the application produces is that of slight pricking.

Dr. Sinclair Holden (*British Medical Journal*, Feb. 21, 1885) relates a case in which he removed a rapidly growing epithelioma about the size of a cherry, which had passed into the fungoid stage, quite painlessly by means of arsenical mucilage. He "scraped the tumour down to the raw bleeding surface, and soaked it for fifteen minutes in a four per cent. solution of hydrochlorate of cucaïne, and then applied a thick coating of the arsenic." The patient had no pain for six hours, and was able to bear it for six hours more, when he took the lint off and poulticed for three days. The tumour came away as a slough, leaving a clean, healthy cavity, which is now healing satisfactorily.

4. Massage in surgery.

Dr. Zabłudowski (*Langenbeck's Archiv für Chirurg.*, xxi. 2) has entered very fully into the uses of massage in surgical practice. He is an enthusiastic believer in this therapeutic measure, and supports his arguments by a series of very valuable experimental inquiries. He shows, as Dr. Weir Mitchell has already pointed out, that massage is an excellent "mechanical tonic," and also demonstrates that it rapidly restores exhausted muscle, that it increases the blood pressure in the exercised part, and also raises the local heat.

He advises that the treatment should only be carried out for five minutes at a time, and that it should be frequently repeated. The muscles of the affected part are to be stroked and kneaded, the pressure is to be deep, and to be evenly distributed, and the whole of the muscular district is to be equally exposed to this scientific shampooing.

The author speaks highly of massage in the treatment of limbs that remain stiff and painful after the union of fractures; and certainly no measure yet introduced appears to restore more rapidly and perfectly the impaired function of the damaged extremity. The treatment may be commenced while yet the limb is adjusted in a fixed position, but it is more advantageously applied when the limb is removed from all splints and the fracture has united.

Massage acts also most beneficially in restoring the function of overworked muscles. This condition is met with in many artisans whose employment demands the constant use of a certain

limited set of muscles. It appears also to have been followed by speedy good results in cases of crutch paralysis.

The advantages of massage in the treatment of hysteria have been clearly demonstrated by Dr. Weir Mitchell, and it is to be hoped that this simple therapeutic measure will receive a more extensive application in surgical practice.

5. Acute inflammation of bone.

Mr. Thomas Jones (*Medical Chronicle*, vol. ii., p. 91) advocates the treatment of acute osteomyelitis by trephining the inflamed bone. This measure should be applied early, as soon as the diagnosis is fully established, and the gravity of the case recognised. Mr. Jones does not wait until a sub-periosteal abscess has formed. This measure relieves tension, gives a free vent to all inflammatory products, and greatly modifies the pain and constitutional disturbance. Inflammation of bone differs in no essential feature from inflammation of other parts, and it is unreasonable to restrict the common surgical measure of free incision and drainage to those parts alone. The author gives three cases in which the trephining was followed by most satisfactory results. The treatment is not new, but to Mr. Jones must belong the credit of having advocated the free and general use of the trephine in this class of case, and its adoption at a somewhat early stage in the disease.

6. Osteomyelitis.

Mr. Keetley (*Annals of Surgery*, Jan., 1885) affirms (and supports his views by three cases cited) that as a treatment of osteomyelitis no harm is done either to the vitality or reunion of bones by scraping the medullary cavity and disinfecting the shaft of the bone with a solution of corrosive sublimate (1 in 960) or a concentrated ethereal solution of iodoform. He quotes Bleekwen, Stoll, and Petrowski as having had equally good results, and the latter recommends this measure in gunshot fractures of long bones as a preventive against osteomyelitis.

7. Contraction of the palmar fascia.

Mr. James Hardie (*Medical Chronicle*, vol. i., p. 9) has given in fuller detail an account of his method of treating this deformity. His earlier paper was reviewed in the last volume of the *Year-Book* (p. 147). The operation is a revival of that introduced by Goyrard, in 1834, and recommends itself as the best operative procedure for this contraction. The great difficulty in the way of all treatment consists in the union of the skin to the surface of the contracted bands. It is on account of this adhesion, which is anatomical rather than pathological, that all subcutaneous operations have more or less completely failed. In the

present procedure a median incision is made through the skin over the prominent band. The integuments are then dissected off; the band is divided in one or more places, and the finger put up in the extended posture. The edges of the skin wound are then united, and a horse-hair drain introduced.

Mr. Hardie describes six hands that were treated by this measure, with results that must be considered to be most excellent.

8. Salivary fistula. New operation.

Mr. A. Hodgson describes (*Lancet*, April, 1885, p. 682) the following operation. Two needles, threaded on one strong piece of silk, were passed through the fistula into the mouth, on a rather lower level than the external fistulous orifice, piercing the buccal mucous membrane about a quarter of an inch apart. The needles were then removed, and the threads firmly tied and cut off short, thus leaving a ligature enclosing part of the internal wall of the duct, a portion of mucous membrane, and the intervening structures. The edges of the fistula were touched with strong nitric acid in the course of a day or two, so that a scab formed over it, and all the saliva found its way into the mouth. This scab came off a few days later, leaving the skin soundly healed, and the ligature inside cut its way through the mucous membrane in three weeks. The recovery was complete.

9. The treatment of displaced semilunar cartilage.

Professor Annandale (*British Medical Journal*, vol. i., 1885, p. 779) describes the following simple operation for the relief of this condition. In the case reported the internal cartilage was involved, and the procedure was followed by a complete cure.

An incision, parallel with the anterior border of the internal semilunar cartilage, was made along the upper and inner border of the tibia. The joint was opened, and the cartilage was found displaced backwards about half an inch. It was drawn into position, and there fixed, by means of catgut sutures, to the adjacent fascia and periosteum. The wound in the skin having been closed, the limb was fixed in the extended position by a plaster-of-Paris dressing. It is possible that a procedure of this kind may be attended by so little inflammatory action, and by so speedy and complete a removal of the catgut, that the displacement may in time once more occur.

10. Osteotomy.

Dr. Hofmohl (*Archiv für Kinderheilkunde*, Bd. vi., 1885) gives the details of 52 operations upon deformed bones in 26 individuals. The operations are thus divided: osteoclasy, 10; linear osteotomy, 31; and osteoectomy, 11. The ages of the patients ranged between two and twenty-three years. In 18 cases

in children the operations were undertaken for rachitic deformities, and in 8 cases in adults for genu valgum or varum. Of the 10 osteoclastics 3 failed, on account of the firmness of the bone, and the remaining 7 did well. Of the other 42 operations 21 were linear osteotomies of the bones of the leg, and 11 were examples of Macewen's operation; 11 were osteoectomies. Of this number 31 healed by first intention, 10 by second intention, and 1 died of pyæmia. Dr. Hofmokl considers that the chief obstacle in healing by first intention is bleeding from the bones, and to prevent this he fixes the limb for eight or ten days in a very elevated position. In children he adopts vertical suspension of the limb.

He divides the treatment of genu valgum and varum into three categories, according to the severity of the case:—(1) The use of apparatus and elastic accumulators; (2) *redressement forcé*, with or without tenotomy; and (3) osteotomy by Macewen's method. He points out that the callus produced when suppuration has occurred is stronger and firmer than that met with when the parts have healed by first intention.

Dr. Boeckel (*Bull. et Mém. de la Soc. de Chir.*, t. x., p. 459) devotes a memoir to the discussion of 120 patients who were treated for deformed extremities. In three-fourths of these simple straightening sufficed, with or without the use of some slight apparatus. Osteoclasty was performed in thirty instances, the oldest patient being eight years, with a good result in twenty-seven cases and a failure in three: thirty-two osteotomies were performed, eighteen for rachitic deformity, ten for genu valgum, three for ill-united fracture, and one for ankylosis of the hip. In twenty-three of these cases there was healing by first intention; in six there was slight suppuration, and in two considerable suppuration. One patient was attacked by erysipelas.

Mr. Willett (*St. Bart's Hosp. Reports*, vol. xx., p. 59) gives an account of 101 osteotomies. The results were exceedingly satisfactory. Mr. Willett prefers Macewen's operation to Ogston's in the treatment of genu valgum and varum, and, indeed, his list includes only three examples of the latter operation. Ten operations were performed for the relief of ankylosis at the hip-joint. In six instances the neck of the femur was divided by Adam's method. For the operation, Mr. Willett uses the saw in preference to the chisel. In the remaining four cases the femur was divided below the trochantus. One death followed, and in the remaining cases an excellent result ensued.

11. Arthectomy of the knee.

Dr. Richard Volkmann (*Centralblatt für Chirurgie*, No. 9, 1885)

proposes this operation as a substitute for excision in cases of pulpy degeneration of the joint. The procedure is especially adapted for children, since it leaves the epiphysis undamaged, and does not therefore occasion any shortening of the limb. The operation consists essentially in the removal of all the diseased parts—and the diseased parts only—by cutting and scraping. Before it is undertaken the limb must be straight, and all abscesses and sinuses must have been dealt with. A transverse incision is made across the joint; the patella is sawn through transversely, and the articulation is opened up. The capsule is cut away until the healthy parts are reached. The cartilages are scraped away so far as is necessary, and foci of disease in the bone are removed by gouging. Before the operation is considered to be completed every trace of disease must have been scraped away, but no healthy tissue is removed. During the operation Volkmann uses in the place of the spray frequent washings with sublimate solution. The patella is united; the cavity is drained, and the limb fixed in a rigid apparatus. Volkmann speaks in high terms of the operation, both as regards its safety and its final results. The procedure must, however, be very tedious, and the completeness of it depends upon the power of recognising healthy from diseased tissues. In an extensive scrofulous disorganisation this is not always a very easy procedure. The operation has this advantage over excision, that it does not involve the removal of healthy tissues; but at the same time it must be noted that it does not bring two such even surfaces together as are left by excision.

Mr. G. A. Wright (*Medical Chronicle*, vol. ii., p. 271) gives an account of sixteen cases of arthectomy, or erasion of the knee. His operation differs in no essential point from that described by Volkmann. He uses, however, a semilunar incision similar to that employed in excision. He sometimes saws the patella across, or more usually opens the joints by incisions made on either side of the patella. All the diseased tissues are carefully cut and scraped away. The operation lasts from one and a half to two hours, and is conducted under proper antiseptic precautions. His sixteen cases were all on children. In some the joint had suppurated, in others it had not. His results are most satisfactory. The joint remains stiff, but there is no shortening.

12. Nerve suturing.

Dr. Rawa (*Wiener Med. Wochenschrift*, 1885, Nos. 11 and 12) finds fault with the present means adopted for bringing together divided nerves. He points out that when the divided nerve is at the same time crushed, so much of the nerve tissue may have to

be cut away that a close approximation of the divided ends is not possible. He also is of opinion that the sutures introduced into the nerve substance act injuriously. He therefore proposes the following operation, the details of which he has carried out upon animals. After the nerve ends have been laid bare, a loop of catgut is placed around either end at a distance of about one centimètre from the cut extremity. These loops include also the connective tissue around the nerve, and they are only drawn sufficiently tight to prevent them from slipping. The ends of the catgut loops are then tied together and the nerve ends so approximated. He states that the results obtained in animals by this procedure were invariably good. It is to be noticed, however, that perfect restoration was only obtained at the end of several months.

There is little to commend this operation. If it appeared—in a recent case of wound—that the nerve ends were so damaged that so large a quantity would have to be cut away as to prevent the approximation of these ends, I imagine that the attempt at suture would be deferred until the extent of the damage had been ascertained. One would expect, also, that a tight ligature around a damaged nerve would increase rather than diminish its prospects of restoration. It is, moreover, very doubtful if sutures applied in the long axis of a nerve would in reality do more harm than a ligature secured firmly around it.

13. The extirpation of the thyroid gland.

Dr. Rotter (*Archiv für klin. Chir.*, Bd. 31, Hft. 4) has produced a paper on this subject of considerable interest. He deals in the first place with thirty-three cases of goitre extirpated by Professor Maas. The operation methods are discussed in detail. Before the operation the skin over the thyroid is well washed with a solution of corrosive sublimate. The incision is made in the form of a flap that includes the platysma, and has its base upwards. The sterno-mastoid muscle is split in the direction of its fibres, while the small muscles beneath it are simply divided. No inconvenience seems to have been occasioned by such division. The capsule is divided longitudinally, and the tumour is worked out of it without cutting. The vessels at the upper and lower ends of the tumour are sought for and ligatured. Dr. Rotter points out that the recurrent nerve often runs with the inferior thyroid artery, and may be easily damaged if the branches of that vessel are ligatured *en masse*. The lower end of the wound is kept open, but no drains are used. Prof. Maas does not practise tracheotomy before the operation. Dr. Rotter has collected no less than 613 reported cases of extirpation of the thyroid. The mortality of

the whole number is 16·3 per cent. The mortality has rapidly decreased during the last few years, and has, indeed, declined from 31·4 per cent. to 10 per cent. The latter percentage represents the mortality of the present time.

He gives details of 50 cases of cancer of the thyroid that were subjected to operation. Of this number 8 died in the first 24 hours, 5 at the end of the first week, and 8 at the end of the second week. At the end of six months 84 per cent. had either died or had had a recurrence of the growth. In fact only four patients remained free from a recurrence for a longer period than six months. The figures point very strongly to the conclusion that an operation in a case of malignant disease of the thyroid is only justifiable under the rarest circumstances.

14. Bronchocele.

Dr. M. Mackenzie (*Medical Times and Gazette*, Oct. 4, 1884) concludes:—(1) Simple goitre, enlargement of the thyroid body of recent origin, and occurring in young persons, can, in the absence of endemic influences, generally be cured by the administration of iodide of potassium, and in many cases by counter-irritation. (2) Fibrous goitre is best treated by parenchymatous injections of tincture of iodine. (3) Cystic goitre can be most readily cured by conversion of the cyst into a chronic abscess, which is effected by emptying the sac, injecting a small quantity of solution of perchloride of iron, and allowing it to remain within the sac for three or four days. (4) When the cyst is of considerable size it should not be emptied at once, but should be tapped two or three times before the injection is used. (5) Removal of the thyroid body is a dangerous operation, which should never be performed for mere cosmetic purposes, nor even for the relief of urgent dyspnoea, except when less radical measures have failed.

15. Tuberculous lymphomata of the neck.

In a review of a large number of cases treated in Billroth's Clinique, **Dr. Fränkel** (*Zeitschr. f. Heilkunde*, vi., p. 193) discusses the treatment adopted. Parenchymatous injections of arsenic, tincture of iodine, corrosive sublimate, osmic acid, and iodoform emulsion were of no avail. In 128 cases the glands were removed by operation; unimportant cases, where single glands were removed, not being included. Only four cases died from operation, one from purulent mediastinitis, three from pyæmia. Complete cure was accomplished in 35 per cent., incomplete cure in 48 per cent., and tuberculosis of the lungs resulted in 18 per cent.

16. Arsenic in malignant lymphoma.

Dr. A. Bogarvsky (*Russk. Meditz.*, No. 2, p. 37, 1885) treated a malignant lymphoma of neck, in a man aged thirty, by injecting

10 drachms of Fowler's solution within eight weeks into the tumour, and exhibiting the same remedy internally. In that time the tumour was reduced by one half.

Dr. Karewski (*Berlin. klin. Woch.*, 1885) states that he has cured three out of four cases of non-malignant lymphoma of the neck by means of parenchymatous injections of Fowler's solution. At the same time Fowler's solution was administered internally in doses of 6 to 20 drops.

17. The extirpation of tuberculous lungs.

Dr. Biondi (*Wiener med. Jahrbücher*, 1884, Hft. 2, 3) has carried out a number of vivisection experiments *à propos* of the surgical treatment of lungs the seat of tubercular disease. He inoculated the lungs of twenty-one animals (rabbits, cats, and dogs) with cheesy and other matters that contained Koch's bacillus. The material was either introduced into the trachea or injected directly into the exposed lung. Ten of the animals died from the effects of the injection operations. In seven out of the remainder the symptoms of lung disease with marasmus appeared in about three weeks. Within thirty days of the time of the inoculation the affected lung was removed in the case of these seven animals. After this formidable operation the animals recovered, no fresh tubercular mischief appeared either in the remaining lung or elsewhere, and the healing was rapid. The excised lungs all presented extensive local tubercular changes.

The value of these experiments is open to considerable question, and their use in surgery, as applied to the human subject, will possibly not be for good. The recent mania for excision is apparently not yet satisfied, but it will no doubt be some time before the removal of a human lung will be considered a legitimate proceeding.

18. Chronic suppuration in antrum.

Mr. Morton Smale (*British Medical Journal*, April, 1885) records a method of treatment which he has adopted with great success in three cases. He removes all offending teeth, and opens the cavity through the socket of one of them. He then syringes the antrum out with 10 per cent. carbolic lotion, and plugs the cavity with lint soaked in a 25 per cent. solution. This he leaves twenty-four hours, and plugs the opening in the mouth by a plate or a plug of cotton-wool soaked in gum mastic and spirit. This treatment is renewed until all fœtor disappears. From that time the cavity is syringed every other day with a 10 per cent. solution for about a month.

19. On excision of the rectum for cancer.

Dr. Voigt has published an elaborate paper upon this subject

(*Inaug. Diss., Halle, 1885*). His report deals with eighteen cases of excision of the rectum, performed by Professor Geuzmer, according to Bardensheuer's method. Of this number one patient died of shock, two of septicæmia, one of exhaustion at the end of three months, one at the end of sixteen days of embolism, after apparent recovery, and one at the end of four months from the effects of urinary infiltration—the urethra having been removed in part with the rectum. In all the remaining patients a good immediate recovery followed, and in no instance has there been so far any local recurrence of the disease. The great majority of the operations, however, have been but recently performed. The least recent operations date from three years (two cases), two years, and one and a quarter years before the publication of the monograph. Two patients died at the end respectively of seven and ten months, of secondary deposits in the liver.

In eight of the cases the peritoneum was opened; and in two instances the vagina, and in one instance the urethra, were removed in part with the new growth.

The author speaks in enthusiastic terms of the operation, and goes so far as to advise its adoption as a palliative measure even in cases where the glands have become involved, and the tissues about the bowel have become infected.

The author enters into elaborate detail concerning the steps of the operation. He advises that the coccyx should always be left when possible; it supports the parts, and greatly assists proper drainage. All the room that is needed in most cases can be obtained by continuing the incision backwards to the sacrum on either side of the coccyx. In cases of high disease the sound segment of rectum between the growth and the anus should be removed. Dr. Voigt holds that there is no objection to the opening of the peritoneum. Indeed, he points out that the more of the rectum that is cut away, the wider is the segment of the meso-rectum that is reached, and the easier can the gut be drawn down and fixed to the skin. He states that 3 to 5 inches of the bowel can be cut away without opening the peritoneum. He makes use of free drainage and frequent irrigation with solutions of chloride of zinc or corrosive sublimate.

20. The radical cure of hernia.

Mr. Keetley (*British Medical Journal*, Sept. 19, 1885) advocates a modified form of what is known as the injection treatment. The treatment of reducible ruptures by injecting some irritant fluid in the vicinity of the hernial orifice was first introduced by Dr. Heaton in 1832, and subsequently advocated with some violence by Dr. Warren. The measure never appears

to have taken any hold of the surgical mind in this country, and Dr. Schwalbe's monograph (*Die Radikale Heilung der Unterleibsbrüche*), published last year, and reviewed in the last number of the *Year-Book*, did not tend to encourage a revival of this mode of treatment.

The great danger of these operations consisted in the fact that the injection was made blindly, and no security could be offered to insure the non-entrance of the fluid into the sac of the peritoneum. Mr. Keetley does not make his injection blindly. He cuts down upon the inguinal ring, and thrusts a probe through the undivided intercolumnar fascia into the inguinal canal. Along the probe is introduced a cannula, and through this cannula the fluid is injected into the canal. Mr. Keetley uses a freshly prepared concentrated decoction of oak bark. After the injection, the pillars of the external ring are brought together by two catgut sutures. Mr. Keetley has operated upon eleven cases, and in two only have the results "fallen short of complete success." All these operations have been performed during the past twelve months, and it is obvious that a sufficient time has not yet elapsed to allow of the value of the operation being judged.

It is difficult, also, in these cases to separate the effect of the injection from the effect of the closure of the external ring. In cases where injection alone has been used—as in Dr. Warren's and Dr. Schwalbe's cases—repeated injections were required to effect a cure. Mr. Keetley's operation deserves a careful trial. It is safe, and the same cannot be said of the bolder operations for "radical cure." Mr. Keetley may also claim that he has made the treatment by injection a simple and scientific measure, and has removed it from the region of empiricism.

A number of cases have been reported during the past year of the so-called "radical" operation for hernia by means of excision or ligature of the sac.

Dr. Munzinger (*Inaug. Diss., Zürich, 1884*) deals with fifty cases of hernia that were subjected to some operation. In forty-five of the cases the rupture was strangulated, and in thirty-two of these the ordinary kelotomy was followed by excision of the sac without closure of the ring. Seven of the patients died. In the remaining thirteen cases the "radical cure" was not attempted, and out of this number no less than eight died. In five instances the "radical" operation was performed upon patients whose herniæ were not strangulated. No case ended fatally, but in two instances an early relapse followed.

From Dr. Munzinger's statistics it may be inferred that some relapse of the rupture must be anticipated in about thirty-seven per

cent. of the cases subjected to the so-called operation for "radical cure." This circumstance, taken in connection with the risk involved by the operation, must materially diminish the value of the measure.

Mr. James Hardie (*Medical Chronicle*, vol. ii., p. 177) gives an account of seventeen patients, whose herniæ were subjected to the "radical" operation. Mr. Hardie simply applies ligature to the neck of the sac, but makes no attempt to excise the sac itself. His ligature includes not only the neck of the sac, but the transversalis fascia as well. The sac is incised and drained. The pillars of the ring are approximated by sutures, and these sutures are made to include the neck of the sac also. In instances where the sac is of large size, and possessed of thick walls, the practice of leaving it *in situ* may be open to some objection. Such a sac would probably soon become converted into a large suppurating cavity, the closure of which would be protracted and tedious. The dissection necessary to remove such a sac, on the other hand, is extensive, and involves a large raw surface to be healed. The question, therefore, as to the best means of dealing with sacs possessed of the character just named may, for the present at least, be left open. One death followed in Mr. Hardie's series of seventeen cases.

Mr. Southam (*ibid.*, p. 180) discusses the treatment of the omentum in herniæ, with reference to the modern operations for "radical cure." In femoral herniæ Mr. Southam advises that the omentum be used as a plug to close the neck of the sac. He transfixes the neck of the sac, and the omentum that occupies it, and ligatures them together in two sections. He then cuts away both the sac and the omentum beyond the ligature. It is true that by this means the femoral canal is plugged, and it must also be owned that the closure of that canal by operative measures is difficult, if not impossible.

This plugging of the canal, however, is not effected without some risk, for the omentum that is thus rendered adherent may readily form an omental band, and it is moreover a question whether a plug of omentum is always desirable. In some instances it would appear that adherent omentum has rendered the abdominal surface of the hernial orifice funnel-like, and has actually encouraged the descent of a fresh sac and a fresh rupture. Experience, however, may show that these objections are theoretical rather than actual.

21. Strangulated hernia.

Dr. Bartosz (*Russkaia Meditz.*, No. 3, 1885, p. 62) deals with seventeen cases of strangulated hernia, all treated by ether irrigation. In some of these cases the rupture had been strangulated but

a few hours, in others two or three days. The treatment is simple. Half an ounce of ether is poured over the tumour every thirty minutes, with the result that in four or five hours the hernia either returns spontaneously or is reduced with trifling pressure. The rationale of the treatment is not quite evident. Presumably, the reduction is effected by the action of the local cold produced. If this be the only means by which the ether acts, then it must be pointed out that an ice-bag or Leiter's tubes will bring about a greater and more continued loss of temperature, and yet the very extended use of these two latter measures has not been followed by such remarkable results as are here recounted.

22. Massage in the treatment of intestinal obstruction.

Dr. Kriviakin (*Proceedings of the Caucasian Med. Soc.*, No. 14, 1884, p. 358) is a strong advocate of this measure. The *modus operandi* is as follows:—The patient lies quite flat upon his back with the legs extended. The hands of the operator are oiled, the fingers are widely separated, and both hands are then made to exercise steady pressure upon the abdomen. The hands are passed in all directions, first from below upwards, then from above downwards, then from right to left, and then from left to right. The whole of the abdomen is thus carefully kneaded. The process is continued for twenty minutes, at the end of which time there will be excited a regular peristaltic storm. Massage for a period of fifteen minutes may be re-applied at the end of one and a half hours if the first manipulation has produced no effect. Dr. Kriviakin uses this measure in all forms of obstruction. He gives illustrative cases. In one the constipation had been absolute for ten days, and the vomiting was feculent. The patient was cured at one sitting. In two others the obstruction had existed for eight days, and in one of these the vomit had become feculent. The patient was relieved in two sittings. In a fourth instance, where there had been absolute constipation for twelve days, the patient died. It must be noted also that the massage is associated with the free use of enemata.

This mode of treatment is obviously not suited to all cases of obstruction, and is, indeed, likely to prove obnoxious in genuine examples of acute obstruction. In acute cases—such as those due to strangulation by bands—increased peristalsis merely adds to the mischief. If the bowel is gripped with sufficient tightness for acute symptoms to be produced, it is not to be expected that even a storm of peristalsis will set it free. In intussusception also—especially of the acute and subacute varieties—increased peristalsis is a state of intestine to be very distinctly

avoided ; and there is sound evidence to show that such increased movement merely adds to the mischief. The form of intestinal obstruction, however, to which this mode of treatment would appear to be peculiarly well adapted, is that due to fæcal impaction. This form in its acute manifestation is known as ileus paralyticus. In this condition there are fæcal masses to be dislodged and to be moved to other parts of the gut ; the blood supply within the abdomen requires to be increased, or at least to be modified as to its distribution ; and lastly, the muscular power of the bowel needs to be revived and stimulated. There is, probably, no one measure that could meet these ends so readily as they are met by massage. Massage, as Dr. Weir Mitchell expresses it, is an admirable mechanical tonic, and its effect upon the blood pressure has also been demonstrated. Systematic kneading of the abdomen, with the free use of enemata, is likely to prove a most valuable measure in the treatment of ileus paralyticus, or severe and obstinate constipation. The cases reported by Dr. Kriviakin would appear to have been all of this character.

23. Kussmaul's treatment of intestinal obstruction.

The treatment of intestinal obstruction proposed and carried out some little time ago by M. Kussmaul has been somewhat extensively adopted on the Continent. Kussmaul's method is as follows :—A little morphia having been administered, a stomach-pump tube is passed into the stomach. That viscus is emptied, and is then thoroughly washed out with warm water, until the returning fluid is perfectly clear. It is claimed for this measure that it has a palliative effect, that it greatly relieves the distressing vomiting and thirst, that it empties the bowel to a great extent above the obstruction, and so acts somewhat in the same manner as the operation of enterotomy, and finally that it induces normal peristaltic movements. Cases to illustrate the application of Kussmaul's method may now be given. **Dr. Makusin** (*Vratch*, 1885, p. 55) reports the case of a man, aged fifty-five, with acute obstruction and feculent vomiting on the fifth day. On the tenth day of absolute constipation, other means having failed, the stomach was washed out. It produced great relief. A second washing, followed by an enema, was attended by a motion (on the twelfth day). The stomach was washed out a third time, and the patient made a good recovery.

Dr. A. Cahn (*Berliner klin. Wochens.*, No. 42) reports three cases. Female, aged sixteen ; stomach washed out five times in twelve hours. The first motion took place on the eighth day of absolute constipation, aperients, enemata, &c., having failed. Male, aged

thirty; acute obstruction. Six hours after the washing out of the stomach a motion was passed on the ninth day of complete constipation. The nature of the obstruction was unknown in both these cases. The third case was supposed to be one of intussusception. The symptoms had lasted twenty-three days. The stomach was washed out twice daily with much relief. A portion of necrosed bowel was passed, and death from perforative peritonitis followed upon the passing of the first motion.

Dr. Senator (*Centralblatt für Chirurgie*, July 25, 1885) reports three cases:—(1) A man suffering from lead colic. The washing out of the stomach gave great relief, and hastened the cure. 2. A woman supposed to have a tumour of the bowel. The relief effected was only temporary. (3) A man supposed to be suffering from subacute obstruction. Enemata produced no effect. On the eleventh day the vomiting was feculent. On the fourteenth day Kussmaul's treatment was commenced. Great relief followed, and a motion was passed after the second washing. In ten days the symptoms re-appeared with collapse and death. The autopsy revealed tubercular peritonitis.

In the same number of the *Centralblatt* reports that are in general terms favourable to this mode of treatment are made by **Drs. Rosenthal, Ewald, and Fränkel**.

Dr. Oser also (*Wiener med. Blätter*, 1884, No. 48) speaks somewhat strongly in favour of Kussmaul's procedure in cases of ileus.

Dr. Delprat (*Nederl. Tijdschr. voor Geneeskunde*, 1885, No. 13) reports two cases of ileus treated by this means:—(1) A man, aged twenty-eight, had had complete obstruction for four days, with feculent vomiting. The stomach was washed out seven times in three days; only temporary relief followed. Laparotomy was performed. The cause of obstruction could not be found, and therefore enterotomy was performed. The patient made a good recovery. (2) Female, aged thirty-seven. Acute obstruction supervening upon chronic; feculent vomiting. Great temporary relief attended the washing out of the stomach. Laparotomy was performed, and a tumour of the bowel discovered. The cœcum and part of the ileum were resected, and the bowel closed by sutures. The patient died on the fifth day, of perforative peritonitis.

It would be premature to express at the present time a decided opinion upon Kussmaul's method. It will be noted that in the cases in which it seemed to act best no certain diagnosis had been made. It is difficult to conceive how it can act as a curative measure in cases of strangulation and intussusception. It may

act beneficially in ileus paralyticus. There is no doubt but that it is a most valuable palliative measure, and that it removes some of the evils that attend the accumulation of fæcal matter in the upper bowel. It is likely to prove of service as an adjunct to other and more direct modes of treatment, and in cases where operative interference is declined.

24. Laparotomy in intestinal obstruction.

Mr. Greig Smith (*British Medical Journal*, June 13, 1885) lays down the following rules:—

1. Make the incision in the middle line below the umbilicus.
2. Fix upon the most dilated or the most congested part of the bowel that lies near the surface, and follow it with the fingers as a guide to the seat of obstruction.
3. If this fail, insert the hand, and carry it successively to the cæcum, the umbilicus, and the promontory of the sacrum.
4. If this again fail, draw the intestine out of the wound, carefully covering it, until increase of distention or congestion, or both, in one of the coils, gives an indication that the stricture lies near.
5. If there be considerable distention of the intestines, evacuate their contents by incision, and suture the wound. Never consider an operation for intestinal obstruction inside the abdomen finished until the bowels are relieved from over-distention.
6. Be expeditious, for such cases suffer seriously from shock. The whole operation ought to be concluded in half an hour.

25. The treatment of acute peritonitis.

Mr. Treves (*Trans. Roy. Med. and Chir. Soc.*, March, 1885) gives an account of the case of a female, age twenty-one, who was suffering from acute diffused peritonitis. Laparotomy was performed, and the peritoneal cavity was very carefully washed out, and subsequently drained. The patient made a good recovery. The extreme fatality of acute diffused peritonitis—especially of that form due to perforation—and the acknowledged futility of the modes of treatment that are at present employed, give some support to the proposal that acute peritoneal inflammations should be treated by the same methods that are successfully applied to other acute inflammations, viz., by free incision and drainage. This common and general surgical procedure has been already applied for the relief of inflammation of certain of the serous membranes. It was at first adopted in connection with the smaller serous cavities, as those of the joints. It has been gradually and with increasing freedom applied in the treatment of inflammatory conditions involving the pleura. It has finally become a recognised means of treatment in certain forms of localised and

chronic peritonitis, especially when purulent collections have formed. Mr. Treves suggests the use of abdominal section in the treatment of certain cases of acute general peritonitis, such as that following injury, gunshot wounds, the bursting of an abscess, and certain forms of perforating ulcer of the stomach and intestine.

Mr. Howard Marsh (*Trans. Roy. Med. and Chir. Soc.*, March, 1885) reports a case of circumscribed peritonitis in a young man, aged nineteen, that was treated by incision, and that was followed by a perfect recovery.

Dr. Chavasse (*Sem. Médic.*, 1885, No. 17, p. 143), dealing with the subject of rupture of the bowel without external wound, gives the following as his conclusions:—

1. Laparotomy should be practised in every case of rupture of the intestine without lesion of the abdominal walls.

2. The operation should be done as quickly as possible, before the peritonitis has attained great severity.

3. If the rent is small a suture may be put in and the abdominal wall closed, a drainage tube being inserted. If it is complete, or takes in half the circumference of the intestine, an artificial anus should be made.

4. This operation is of undoubted utility, taking into consideration the great mortality of lesions of this nature. It is not and cannot be harmful when it is limited to a simple exploratory incision.

The contra-indications are a state of collapse too pronounced, and indicated by a temperature of 36° to 35° C.; accompanying lesions of the spleen, pancreas, kidneys, and liver (bladder excepted).

Dr. Kocher, of Berne (*Corres. Bl. f. Schweiz Aerst.*, Nos. 23, 24), has recorded a successful case of gunshot wound of the stomach, in a lad aged 14, treated by laparotomy and suturing of the wound in the viscus.

Prof. Annandale (*Lancet*, 1885, vol. i., p. 740) reports a very similar case. A lad, aged 15, was shot in the abdomen. Laparotomy was performed. Three perforations in the small intestine and two in the colon were discovered. These were closed by Lembert's suture. The patient, unfortunately, died in 24 hours.

Prof. Oberst (*Centralblatt für Chirurgie*, May 16, 1885) reports the case of a man, aged 48, who was suffering from acute diffused peritonitis, due to a perforation of the bowel. The abdomen was opened, and the peritoneal cavity washed out and drained. The patient did well for some time, and finally died at the end of nine weeks, of pneumonia.

He advises washing and drainage of the peritoneal cavity in peritonitis, and believes that it is likely to be most successful (1) in cases of circumscribed inflammation and (2) in the diffused form when treated early in the disease.

Dr. Leyden (*Centr. f. Chirurg.*, Dec. 20, 1884) advocates abdominal section, the washing out of the abdomen, and free drainage, and records successful cases in what he terms "spontaneous" peritonitis.

Dr. William Bull, of New York (*New York Medical Journal*, Feb. 14, 1885), has placed upon record a case which must certainly be regarded as the most brilliant achievement in the present line of treatment that has yet been noted. A man, aged twenty-two, was shot in the abdomen. Laparotomy was performed seventeen hours after the accident. A number of wounds were found in various parts of the intestine. These were closed by Lembert's suture. The peritoneal cavity was cleaned out and drained. The patient made an excellent recovery.

There can be no doubt but that in this case the operation saved the patient from a certain death.

Three cases of **Dr. Mikalicz** (*Centralblatt für Chirurgie*, No. 45, 1884) bear also upon this subject:—(1) The abdomen was opened for peritonitis, following inflammation about the cœcum. The patient died in five days. (2) Laparotomy was performed for perforating ulcer of the bowel in a young man. Extravasation had taken place. The hole in the intestine was closed, and the peritoneum cleansed. The patient did well. (3) Laparotomy was performed in a case of rupture of the stomach, but the patient only survived the operation three hours.

Dr. Tilnig (*St. Petersburg Med. Woch.*, No. 44, 1884) cites the case of a penetrating wound of the abdomen (in a man, aged nineteen) $\frac{4}{5}$ inch long, and an inch to the left side of the linea alba, and nearly three inches above the umbilicus. On laparotomy the knife was found to have wounded the left gastro-colic ligament, through which the finger recognised a wound with protrusion of mucous membrane in the posterior wall of the stomach, two inches above the greater curvature.

The mucous membrane was replaced, and the muscular walls united by three silk sutures, and the peritoneum closed by four of Lembert's sutures. Owing to the collapse of the patient, thorough cleansing of the abdominal cavity was impossible, since the abdominal wound was closed as soon as possible. The patient received, for the first five days, milk by the mouth. There was no fever, and recovery took place without interruption.

Dr. Burchard has published a very valuable paper upon the

treatment of acute peritonitis by laparotomy (*New York Med. Journal*, Aug. 15, 1885). He advises early treatment, careful washing out of the peritoneum, and drainage. He reports the case of a man, aged twenty-five, who suffered from acute peritonitis, following the rupture of an omental abscess. Laparotomy was performed with excellent results.

The author enters into the bibliography of the subject, and has made a very useful collection of the hitherto published cases in which laparotomy was performed during the existence of peritonitis.

It will be seen from the above cases that there is a prospect that a series of most fatal maladies and lesions will be reduced by treatment to the level of disorders with but a moderate mortality.

26. Treatment of pancreatic cysts.

Dr. N. Senn considers (*Amer. Journ. Med. Sciences*, July, 1885) that the best treatment consists in the establishment of a pancreatic fistula under antiseptic precautions. A four-inch skin incision over the most prominent part is followed by a two-inch exploratory peritoneal incision, to be enlarged if necessary. If adhesions are found, the cyst is incised and drained. But if there be no adhesions the parietal peritoneum is stitched to the abdominal wall, the omentum is pushed back, and the wound packed from the bottom with iodoform gauze and covered with antiseptic dressing till adhesions have formed, when the cyst can be incised and drained. Or the cyst wall being brought forward by forceps may be aspirated, and as it empties, pulled through the wound. When nearly empty it can be incised and sutured to the peritoneum lining the abdominal wound. It is then quite evacuated, a drainage tube inserted, and the edges of the wound painted with carbolic oil to protect them against the pancreatic juice.

27. Aspiration in abscess of the spleen.

Dr. Parzewski (*Centralblatt für Chirurgie*, 1884, p. 126) records a case in which an abscess of the spleen was aspirated, the aspiration being twice repeated in five weeks, and a pound and a half of fluid evacuated on each occasion. The man was cured in five weeks.

ORTHOPÆDIC SURGERY.

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I. The operative treatment of club-foot.

Davey: The radical cure of club-foot (*British Medical Journal*, vol. i., 1885, p. 330). **Cotterill**: Talipes cured by osteotomy (*Edinburgh Medical Journal*, xxx., 1885, p. 927). **MacGillivray**: Osteotomy for talipes equino-varus. (*ibid.*). **Davies-Colley, Croft, Rose, and Walsham**: Cases of osteotomy for talipes (*Proceedings of the Royal Medico-Chirurgical Society*, Feb., 1885). **Gross**: Posterior tarsotomy; and **Reverdin**: Extirpation of the astragalus and resection of the inferior extremity of the tibia for talipes (*Revue de Chirurgie*, 1885, p. 353). **Weiss**: Ablation of the astragalus for talipes-equinus (*Gazette des Hôpitaux*, 1885, lviii., p. 251). **Jeannel**: A case of extirpation of the astragalus for equino-varus (*Revue Méd. de Toulouse*, 1885, 1,424). **Reeves**: Immediate rectification of extreme equino-varus by multiple tenotomy or by open division (*Practical Orthopædics*, London, 1885). **Phelp**: The treatment of equino-varus by open incision (*British Medical Journal*, vol. ii., 1884, p. 367).

There can be no doubt that a considerable advance has been made in the treatment of intractable club-foot since the introduction of osteotomy on the tarsus, notwithstanding the opinion maintained by some that it is a retrograde rather than a forward step. At the same time it cannot be too strongly urged on those who have had but little experience in the treatment of these deformities, that only in inveterate cases, and after tenotomy and a long perseverance in mechanical treatment, ought it to be undertaken. For whereas tenotomy and mechanical straightening are practically unattended with any risks, fatal results may follow the open operation, and when it is successful, the results, however good, will hardly bear comparison with those of successful cases

cured by tenotomy and mechanical means. The various operations on the tarsus may be divided into the osteotomies and the deep dissections with division of the plantar ligaments. Osteotomies have been classed by Poinsoot into the anterior and posterior, the former including excision of Chopart's joint, the removal of the cuboid, the removal of a double wedge-shaped piece from the tarsus, and the like; the latter including the ablation of the astragalus, the astragalus and one or other malleolus, or these structures together with the anterior end of the os calcis. **Davy's** method of removing a wedge-shaped piece from the tarsus is now so well known that no description of it is required here. He has operated in twenty-six cases, with one death. The results of the operation in the other twenty-five were most satisfactory; "a shortened and symmetrical foot was left; the patients became plantigrade, dispensed with instruments, and performed their ordinary duties." In the discussion that followed the reading of his paper, **Mr. Davies-Colley** stated that he had successfully removed a wedge-shaped piece with excellent results, but had found a fine saw and a raspatory sufficient, and thought **Mr. Davy's** triangular director unnecessary. **Mr. Croft** added four successful cases, **Mr. Rose** two, and **Mr. Walsham** three, making in all 36 cases with one death. In the cases related in the *Edinburgh Medical Journal*, **Dr. Cotterill** removed the cuboid and external cuneiform, keeping up traction afterwards by a weight and pulley, and dividing the tendo Achillis at the time of the osteotomy. The patient was able to wear an ordinary boot and walk a moderate distance without trouble. **Dr. MacGillivray** removed the cuboid, anterior part of the os calcis and external cuneiform, and placed the foot on a suitable splint. The foot was improved, but not perfect. He therefore made a fresh incision over the former one, and removed a wedge-shaped piece from the tarsus, the blunt apex of which corresponded to the neck of the astragalus and scaphoid, and the base to the outer aspect of the foot between the os calcis and the fifth metatarsal bone. In six weeks the patient walked with ease on the sole, and the foot, though shortened, was movable at the mesiotarsal joint. In France posterior tarsotomy appears to be most frequently practised. **Drs. Weiss** and **Jeannel** report successful cases treated by the operation, introduced by **Mr. Lund**, of removing the astragalus. **Dr. Gross** reports several cases in which he found it necessary in addition to remove the anterior part of the os calcis, and in two cases a portion of the external malleolus also, whilst **Dr. Reverdin** supplemented the removal of the astragalus by the resection of the lower end of the tibia. In all of these cases the deformity was of an aggravated kind, and a fair trial of milder

means would appear to have been previously made. All were successful. The removal of the astragalus, the key-stone, as it has been called, of the plantar arch, might at first sight seem to be an unsurgical proceeding, and where the deformity can be remedied by the removal of a wedge-shaped piece from the tarsus, such would appear to be preferable. I have seen the astragalus extirpated on several occasions (in one case after a wedge-shaped piece had been removed with only partial rectification of the deformity), and I am bound to say that the operations were attended with very satisfactory results. A fair amount of movement remained at the ankle, the inversion of the foot was almost completely overcome, and the sole could be placed flat on the ground. Mr. Reeves and Dr. Phelps (of New York) relate cases in which they have removed the deformity by tenotomy and open division of the contracted tarsal ligaments. The Achillis and the tibial tendons being divided, an incision is made over Chopart's joint to the bone, the abductor pollicis pulled inwards, and the tarsal ligaments that prevent the correction of the deformity divided. The plantar fascia was divided in the wound. Even then some difficulty seems to have been experienced in bringing down the os calcis. Dr. Phelps has performed his operation on children about five years of age.

2. Forcible wrenching in the treatment of intractable club-foot.

Dr. Wolff (*Berliner klinische Wochenschrift*, March 16, 1885) has successfully employed this method after the failure of tenotomy and other ordinary orthopædic means. He carefully bandages the foot, placing extra-thick pads over the malleoli and other situations exposed to pressure. The foot is then enclosed in a silica bandage, over which a second bandage of plaster of Paris is placed; whilst the plaster dries, the foot is forcibly wrenched into as improved a position as possible, and so held till the plaster has set. Subsequently the bandages are taken off, the tendo Achillis is cut, the bandages are reapplied, and the foot is once more forcibly wrenched into a still better position. The bandages are now cut transversely opposite the ankle joint, and a wedge-shaped piece is cut out corresponding to the transverse tarsal joint. The foot is once more wrenched, and the gap in the bandage closed by applying silica and then plaster of Paris. The patient on whom he operated was the subject of congenital varus. The deformity was so extreme, that the question of amputation had been raised. The force employed was very great, two assistants holding the thigh, whilst two wrenched the foot. The case was completely successful.

3. The treatment of flat-foot.

Following upon the operation of Professor Ogston, of which an account was published in the *Year-Book* of last year, **Professor Stokes**, of Dublin (*Dublin Medical Journal*, lxxix., 3rd series, 1885, p. 443), at a meeting of the Surgical Section of the Academy of Medicine of Ireland, described and advocated the removal of a wedge-shaped piece from the head and neck of the astragalus. Dr. Ogston believes that the chief changes in flat-foot occur at the astragalo-scaphoid joint, whereas Professor Stokes holds the view that the cause of the deformity lies in an alteration in the shape of the astragalus, and therefore avoids opening the astragalo-scaphoid joint. He makes an incision an inch and a half in length along the inner border of the foot, with its centre over the prominence caused by the astragalus, and another at right angles to it, a little behind Chopart's joint (the astragalo-scaphoid). He now dissects back the two triangular flaps for half an inch, and chisels out a wedge-shaped piece with an osteotome. The arch of the foot on adduction and supination is now quite restored, and the foot in this position is placed on a Dupuytren's splint. The patient on whom he operated was a girl, fourteen years old. Strict Listerism was employed, and a good recovery made. In extreme cases, operations such as those of Professors Ogston and Stokes may be necessary. But, although during the past three years I have treated upwards of 100 cases of flat-foot in all stages of severity in the Orthopædic Department of St. Bartholomew's Hospital, I have not met with such a case. Indeed, I have never had occasion even to divide the peronei tendons or tendo Achillis, having found the most severe deformities yield to wrenching the foot and placing it in a position of extreme inversion, with the astragalus well forced back into place, in plaster of Paris. Of this treatment I can only speak in the highest praise, and I would strongly recommend a trial of it before resorting to such serious proceedings as the above.

4. Osteotomy for genu valgum.

The numerous and important communications that have been published during the current year on the treatment of knock-knee by osteotomy of the femur, is conclusive evidence of the increasing favour that this method is meeting with from surgeons. Medical literature in the English, German, Italian, and even French languages, is full of successful cases. Following on Dr. Macewen's paper, published at the end of September, 1884, in which he analyses the results in 1,118 separate osteotomies, the most interesting paper is one by **Mr. Willett**, in the "*St. Bartholomew's Hospital Reports*," vol. xx., published in January, 1885, "On the Treat-

ment of 100 cases of Osteotomy." Of these 82 were done for knock-knee—79 by Macewen's method, and 3 by Reeves' modification of Ogston's. Mr. Willett says that he has nothing but the highest praise to bestow upon Macewen's operation, though he advocates in extreme cases Ogston's, as in such he has found Macewen's fail to produce a straight limb. "In one case, on transverse section of the femur in bringing the limb straight, the lower fragment was thrown so tightly against the integuments on the outer part of the thigh, that it could not be left in that position, and the angle which the two fragments made was so great that it caused a corresponding deformity almost as aggravated as the original. I therefore placed the limb in as good a line as I could, lessening the deformity by at least two-thirds. I should now most certainly do Reeves' modification of Ogston's first, and should then, if any deformity remained, complete it by a subsequent Macewen." I can testify to the soundness of this advice, as in two cases of extreme deformity under my own care Ogston's operation was first performed, and subsequently Macewen's with the best result. "In comparing the results of osteotomy for genu valgum with, on the one hand, forcible straightening (Guérin's plan), and, on the other, gradual straightening by appliances after tenotomy, two of the cases which bear on these points are of interest. In one of these cases, shortly after Professor Guérin had visited London, and had explained his practice at several of the hospitals, I decided to try what force would effect in conjunction with deep tenotomy. Accordingly, upon this patient, with full Listerian precautions, I divided the biceps tendon and the external lateral ligament, making a sufficient dissection to insure that I effected what I intended. I followed this up by forcibly extending and straightening the leg. This being accomplished, I secured the limb in this position on a Macewen-Liston's splint. A severe pyrexial attack followed this step, and the lad became so ill that on the fifth day I was forced to abandon this treatment. Convalescence quickly followed, with, however, scarcely any improvement in the position of the limb. So six weeks later I did Macewen's operation; and here comes in the interesting feature in the case—that he went through this and the subsequent after-treatment without any pyrexial attack, and without pain. Of course the absence of all strain and tension in the latter proceeding, and their presence in the former, afford a sufficient explanation of the different effects upon the patient of the two operations."

The other case was a patient whom Mr. Willett, seven or eight years before, had treated "on the then approved plan by

tenotomy, and gradual straightening with splints having a ratchet joint at the knee. Having brought the legs straight after several months, he was given irons and allowed to walk. I saw the patient at intervals afterwards, feebly struggling to walk ; in truth he was, though his legs were straight whilst in the irons, not one whit better, as regards being cured, than when I first took his case in hand ; for directly the irons were taken off one could put his legs either back to their knock-kneed position or place them straight ; but in this position a full inch separated the external condyle of the femur from the outer facet of the tibia, the elongated internal condyle and the inner facet alone being in contact. Thus, as a result of four years' treatment, the only change produced had been great stretching of the external lateral ligaments of the knee and contiguous structures, producing, of course, a thoroughly lax state of the knee-joint, preventing even his standing without his irons, with which he was, as it were, balanced upon his internal condyles, whilst, if held up without his irons, his feet slipped apart, and the genu valgum returned. Feeling quite sure the lad would never walk without mechanical supports as he was, I deliberately proceeded to undo the work of the previous years, putting his legs in plaster bandages in their original knock-kneed position. It took fully a year for the external lateral ligaments to contract ; then I admitted him, and subjected him to Macewen's operation. All went well, and within the past month he walked to the hospital from some distance, to show me how well he was. He wore no support of any kind ; his legs were quite straight ; and, I need scarcely add, he was mightily proud of his walking powers, for having been a shockingly rickety, puny child, I know that he had never known what walking really meant before.

"Of this series of a hundred cases only two relapses are known to have occurred ; all the rest are in good health, with perfect use of their limbs, although all bear the trace of the operation in an outward curve, more or less decided in the lower fourths of their thighs."

5. On the treatment of wry-neck by extension.

Dr. Petersen (*Archiv für klin. Chirurgie*, xxx., 1884, p. 781) recommends, after tenotomy of the sterno-mastoid, placing the patient on an inclined board suspended by the head, the apparatus for fixing the head being so contrived that the face and neck are held in such a position that the affected mastoid is stretched by the weight of the body. To prevent the drawing up of the shoulder on the affected side and the consequent relaxation of the sterno-mastoid, a cord, to which a weight is attached, passes

over a pulley fixed in a hole in the reclining board, and is held by the patient's hand.

6. On the treatment of lateral curvature of the spine.

Several new forms of spinal supports or modifications of those in previous use have been described. Of these the following may be mentioned:—**Karewski**: A new orthopædic corset (*Archiv für klin. Chir.*, xxx., 1884, p. 445). **Staffel**: A new form of support in scoliosis (*Berliner klin. Wochen.*, xxii., 1885, p. 381). **Beely**: Spinal support (*Centralblatt für Orthopædische Chir.*, Jan. 1, 1885, p. 1). **Schadel**: Apparatus for lateral curvature (*ibid.*, June 1, 1885, p. 142). **Dr. Karewski** uses woven wire-work, out of which he cuts an anterior and posterior piece, and bends them into such a shape that they accurately fit the trunk. The patient is then suspended, the two pieces are applied, and then secured in position by silica bandages wound round the body. The author claims for this corset extreme lightness, adaptability, and great power of resistance, whilst it does not, like plaster of Paris, materially increase the size of the waist. **Dr. Staffel's** support consists of a stout corset, laced up in front, strengthened by longitudinal whale-bone or light steel ribs, and of a steel pelvic girdle and a pressure plate shaped to the convexity of the dorsal curve. The plate is sewn to the corset at the spot where it is wished to make pressure, and is acted upon by a steel lever, fixed above to the plate, and below, by a suitable screw arrangement, to the pelvic girdle a little to one side of the middle line. On the concave side the arm is supported by an axillar crutch. Two bands are fixed to the top of the back of the corset; the one on the concave side of the dorsal curve simply passes over the shoulder, and is attached to the anterior fork of the axillar crutch. The band on the convex side of the curve passes over the shoulder, through the axilla, and then obliquely across the pressure plate and back of the corset to a hook on the opposite side. This band presses the shoulder backwards and downwards, and at the same time holds the pressure plate in position. **Dr. Beely's** apparatus is composed of a stout corset, strengthened with whale-bone ribs. On each side there is a slightly flexible steel band running from the axilla downwards to just above the crest of the ileum, where it is bent forward, and runs parallel to the crest, terminating in a rounded end in front of, and a little below, the anterior superior spine. At its upper end it is attached to a padded arm support, which differs from the ordinary axillar crutch in that it consists only of a front fork. These side springs are provided with buttons, to which sundry straps passing across the front and

back of the body are attached. In the back are a number of steel ribs of such a length and strength as to effect the proper pressure upon the projecting ribs. **Schadel's** instrument is an ordinary pelvic girdle and central upright, with a cross-piece at the top terminating at each side in an axillar crutch. To the upright are attached two pressure plates, and it is in these that the essential character of his support lies. They are provided in the middle with a Charnier's joint, so that the outer part can be made to revolve by a suitable screw apparatus on the internal part, and thus bring pressure to bear on the projecting angles of the ribs in an inward as well as forward direction. The contrivance is an ingenious one, and an improvement on the pressure plates in ordinary use, and will no doubt be useful where spinal apparatus is indicated. That spinal supports are in some instances absolutely necessary, at least in the severer cases met with in hospital practice, I am thoroughly convinced from considerable experience in the orthopædic department at St. Bartholomew's Hospital. In slight cases, however, especially in private practice, there can be no doubt that better results can generally be obtained by judiciously applied exercises, combined with partial recumbency, than by any form of support. At the recent meeting of the *British Medical Association*, **Mr. Roth** read a paper on 200 consecutive cases of lateral curvature of the spine; and in "The St. Bartholomew's Hospital Reports," vol. xx., p. 195, I have given an account of 140 cases of lateral curvature, of which seventy-two were treated by this method. Only three of Mr. Roth's cases are noted as not improved, which was attributed by him to deficient energy on the part of the patient, and neglect to carry out his instructions. He says that "more or less decided improvement is nearly always obtained within a month's daily treatment. Cases without osseous deformity are sometimes even quite restored in this time; but every care must be taken to avoid injudicious positions, and prescribed exercises must be practised at home for some months afterwards to prevent relapses. In cases with a moderate amount of osseous deformity, about three months' daily treatment will, on an average, give a satisfactory result; but complete cure is here impossible." He divides the result of his treatment into improved, much improved, and very much improved, the latter being almost synonymous with cure. Unfortunately from want of space a hundred cases are omitted from the tables, so it is not possible to say what proportion the various results bear to the whole number. In many of these cases various spinal supports had been worn for long periods, and in one for eighteen years. From all of these the spinal support was

removed at once, and the spinal muscles so strengthened that the patients were able to hold themselves permanently in a much better position than when wearing the support, with much benefit to the general health. Of my own 72 cases published in the "St. Bartholomew's Hospital Reports," 16 were practically cured, 4 greatly improved, and 22 improved; 11 were not improved. The remainder either ceased attending before the final note was taken, or only attended a few times. The conclusions there arrived at are—

"(1) That all slight cases should be treated by posture and exercises. (2) That with these some form of bandage or shoulder-brace may advantageously be combined. (3) That the patient should be warned not to trust to either of the last as very efficient means of cure, but only to look upon them as useful accessories to the treatment by posture and exercises. (4) That pronounced cases should at first be treated by posture, exercises, bandages, &c., and be only placed in rigid supports if the former treatment from any cause cannot be thoroughly followed. (5) That advanced or severe cases, in which there is muscular debility, may be benefited by posture, exercises, &c., inasmuch as the curves may be prevented from increasing whilst the general muscular strength is improved. But in such little or no improvement of the curves must be expected. (6) That pronounced and advanced cases may be prevented from getting worse by plaster of Paris or felt cases, and may under some circumstances be slightly improved. (7) That all forms of support have a tendency to produce muscular debility, and lead the patient to rely on them at the expense of the muscles of the back. (8) That even with the use of support the patient may, under some circumstances, get worse."

7. On treatment of caries of the spine.

Several papers have been published advocating Sayre's plaster jackets or felt casings, but they add little or nothing to what is already known on the subject. In the treatment of acute cases of cervical caries extension of the head by weights or fixed apparatus, with the patient in the supine position, appears to be gaining ground, having the support of Mr. Adams, Professor Ogston, and Mr. Clark, of Glasgow, amongst others. Dr. Ridlon (*Med. Record of New York*, Feb. 7, 1885) reports a successful case thus treated. The child, seven years old, presented well-marked signs of the affection, the chin being in contact with the sternum when it came under treatment. A ten-pound weight was applied by a suitable sling to the head and neck, whilst the body was secured to the foot of the bed by means of webbing straps. At the end of four months the head had been brought into its natural position and a collar was applied.

Mr. Adams, at a meeting of one of the London societies, related a case of caries, accompanied by complete motor and sensory paralysis, in which considerable and rapid improvement followed rest on an inclined plane with extension. For making extension in such cases **Dr. Weiss** describes (*Centralblatt für die Gesamte Therapie*, *Wien*, Nov., 1884) an apparatus consisting of a closely fitting, properly padded leather pelvic band, buckled up in front; from either side of this two straps run obliquely downwards and inwards until they meet in the middle line between the thighs, where they pass through a ring, and then backwards behind the thighs to the girdle. From the ring a cord which will thus pull in the axis of the vertebral column passes over a pulley at the foot of the bed. Round the neck and under the arms a suitable collar is fitted, and from this a cord and pulley passes over the head of the bed. For the treatment of chronic cases of cervical caries in the upper dorsal region, several new forms of apparatus have been devised. Thus **Dr. Fleming** (*Medical Times and Gaz.*, Oct. 11th, 1884) describes an india-rubber inflating collar. At the Medical Society (*Lancet*, i., p. 619, 1885) **Mr. W. J. Walsham** exhibited a new combination of jacket and collar of poro-plastic felt, whilst at the recent meeting of the British Medical Association, at Cardiff, **Mr. Edmund Owen** advocated the use of a somewhat similar collar made of moulded leather, **Mr. H. E. Clark** showed a new form of steel ring support, and **Mr. Pye** described a modified form of jury mast. Although some surgeons still recommend Sayre's jury mast, it would appear to be losing favour in this country. **Mr. Owen** says "The jury mast of Professor Sayre has received an honest, extensive, and, I trust, an intelligent trial at my hands, and I have now entirely discarded it. Further, it is heavy and cumbersome, and offers no advantage over the rigid collar, which bears up the chin and occiput from below. The rotatory movement which its construction allows is a real disadvantage, for I regard rest and always rest as the real indication for all these cases." **Mr. Walsham** has also given up its use in the orthopædic department of St. Bartholomew's Hospital; and regards its failure in children under the age of nine or ten as due to the slipping downwards of the plaster or felt jacket in consequence of the pelvis being in them as yet undeveloped, and their thorax forming, with the pelvis, a cone with the narrow end downwards. **Mr. Roth** and **Mr. Clark** have also discarded the jury mast. The latter says of it that it "is undoubtedly an ingenious, and, in some respects, admirable appliance, but having many defects which seriously limit its use. Of these the most important is that from the length and elasticity of

the bent bar carrying the bridle the supporting power is very small, so that in order to make the appliance of any value at all the straps have to be pulled up very tight. To put the matter briefly, if the support be effective it is not comfortable, and if comfortable it is not effective. My conviction is that it is never really effective, and most surgeons who have used the jury-mast must have noticed that the patient still rests her chin upon her hands—a sure proof that the weight is not removed.” Dr. Fleming’s collar consists of three superimposed spindle-shaped india-rubber bags on each side, joined behind and lacing up in front, and provided with an india-rubber tube and tap for the purpose of inflation. This is very comfortable, and when first applied appears to give considerable relief; but, as Mr. Clark states, “unfortunately air is so compressible that the supporting power of such bags is small, even if they remain air-tight, and few that I have tried have held the air for more than two or three hours.”

Mr. Walsham’s apparatus is made out of one piece of poro-plastic felt. It consists of an ordinary poro-plastic jacket together with an accurately fitting collar and helmet piece. The jacket and collar are continuous posteriorly, the collar portion being carried up over the occiput, and after encircling the neck is bent downwards over the shoulders and upper part of the front of the chest, where it overlaps the jacket portion, and is there secured in position by straps and buckles. The cases for which it is especially adapted are those where the caries is situated too high in the spine to be benefited by a common felt or plaster jacket, and too low to be treated by the various collars in use for cervical caries; in short, for cases in which the jury-mast is now frequently used. The collar shown by Mr. Owen is very similar to the preceding; it is manufactured out of “cowhide that is not dressed, *i.e.* impregnated with oil. It is moulded on after the leather has been soaked in a pail of hot water; the hardened case is afterwards lined with chamois leather, and the front and back halves are made to overlap on the shoulders and are fixed together with straps and buckles. The pattern is first shaped out in brown paper.” Mr. Clark’s apparatus consists of “two incomplete rings, the upper for supporting the head, and the lower to rest on the shoulders. Being formed of one piece of steel the two rings are continuous at the back, and the upright portions passing from the lower to the upper, support the latter, and when in use support the head also. The lower ring is formed of round steel, but it is flattened for the upper, the flattening commencing about the middle of the vertical supports. The upper ring being formed of

the ends of the bar is incomplete in front, but the extremities are joined by means of wire, or are loosely clamped, their ends being turned down to form flanges so as to facilitate this connection. It is found that this arrangement allows the easy application of the apparatus, and makes the pad fit more comfortably to the chin and lower jaw than if the upper ring were rigid. On the upper ring is placed a broad piece of millboard, and this serves to support a pad sufficiently broad and thick to form a comfortable rest." At the back there is a tie to keep the apparatus in place when in use. It is in many cases found to be best to use a poroplastic collar, to give a firm resting surface for the shoulder ring. **Mr. Pye's** modified jury-mast is shaped to a pattern taken by laying a flexible metal rod along the spine. "The upper part, which overhangs all the spine along the angle, stops just short of the head, where a cross-bar is attached by a central pivot round which it can move. A second similar cross-bar is placed one inch in front of the angle. The jury-mast thus made is now applied to the patient, the lower part and the tin strips being worked into a light well-fitting plaster case, having a good grip of the pelvis, and binding the mast firmly to the spine up to the seat of the disease. When the plaster has set, a broad piece of webbing is taken and fastened to the front and side of the jacket just below the ensiform cartilage in the middle line and opposite the base of the scapulæ at the sides. For the plaster case a convenient way is to sew short tin strips to the webbing where it will lie over these points, and then attach them with one or two turns of a plaster of Paris roller. A couple of well-padded axillary bands must then be adjusted beneath the armpits. These preparations made, it only remains to attach the ends of the webbing straps to the respective ends of the lower of the two cross-pieces and the ends of the axillary bands to the end of the upper one, giving only such support at first as the patient feels to be comfortable."

In addition to the papers to which reference has already been made, the following have also been published during the year:—

8. On the treatment of club-foot.

Judson, mechanical treatment of calcaneus (*Medical Record*, New York, xxvii., 538, 1885).

Hoffmohl, osteotomy in talipes (*Arch. f. Kinderheilkunde*, Stuttgart, 1884—5, vi. 263).

Franks, Dr. Ogston's operation for flat foot (*Dublin Medical Journal*, 1885, lxxix. 444).

Skliforowsky, osteoplastic operation on the foot (*Rev. d. Chir.*, Paris, 1884, iv. 952).

Willard, the question of excision of the tarsus (*Paris Med. Soc. Trans.*, 1884.)

Speckhahn, rapid cures by massage (Thèse, Paris, 1884).

Lorenz, operative treatment of club-foot (*Ges. prakt. Heilkunde*, 1884).

Springsfeld, treatment of club-foot (*Inaug. Dis.*, Bonn., 1884).

9. On the treatment of knock-knee.

Deschamps, osteotomy in knock-knee (Liège, 1855).

Dandridge, notes on osteotomy (*Bost. Med. and Surg. Jour.*, 1885, cxiii. 25).

Wile, a case of osteotomy in an adult (*New. Eng. Med. Mo.*, 1885, 461).

Bouygues, on genu valgum (*Prog. Med.*, Paris, 1885, ii. 424)

Kumar, Therapeutics of knock-knee (*Wien. med. Presse*, 1885, xxxvi., 274).

Ormsby, operation for deformities of lower limbs (*Dublin Medical Journal*, 1885. lxxix. 212).

Bouilly, osteotomy in genu valgum (*Gaz. des Hôp.*, Paris, 1885, lviii. 108).

Chotzen, result of 33 cases of Ogston's operation (*Breslau Aertz., Ztch.*, 1884, vi. 281).

Gibney, surgical management of deformities (*New York Med. Jour.*, 1884, xl. 606).

Roomanit, two cases of osteotomy (*Wien. med. Woch.*, 1885, xxxv. 105).

Le Fort, on mechanical treatment of knock-knee (*Bull. et Mém. Soc. de Chirurg. de Paris*, 1885, xi., 200).

Michael, supra-condyloid osteotomy (*Maryland Med. Jour.*, Baltimore, 1885, xiii., 130).

Trélat, osteotomy and osteoclasy (*Gaz. des Hôp.*, No. 90, 717, 1884).

10. On the treatment of lateral curvature of the spine.

Fischer, on rotatory pressure (*Cent. f. Chir.*, Leipzig, 1885, xii., p. 147).

Lorenz, indications for felt jackets (*Wien. med. Presse*, 1885, xxvi., p. 438).

11. On the treatment of caries of the spine.

Hirsch, the hammock method of applying the plaster jacket (*Med. and Surg. Reporter*, Philadelphia, 1885. lii., 583).

Ryan, treatment of Pott's disease (*Cincinnati Lancet*, 1885, N.S., xiv., 606).

Zesas, treatment of paraplegia in spondylitis (*Arch. f. klin. Chir.*, 1884, xxxi., 260).

Webster, the V lever brace in (*Journ. Am. Med. Ass.*, Chicago, 1885, x., 175).

Webel, on Sayre's jacket (*Deut. med. Woch.*, Berlin, 1885, xi., 18).

Smith, S. W., danger of plaster of Paris. A new woven wire jacket (*Med. Rec.* New York, Oct. 18, 1884).

Kölliker, silica corset (*Centralb. f. orthop. Chir.*, March 1, 1885).

Staffel, reclining bed for scoliosis (*Centralb. f. orthop. Chir.*, Oct. 1, 1885).

12. Miscellaneous.

Pannel, linear osteotomy of femur in ankylosis of knee (*Par. Med.*, 1885, x., 73).

Volkmann, treatment of wry neck (*Centralb. f. Chir.*, Leipzig, 1885, xii., 233).

Duplay, linear osteotomy of the radius (*Arch. gen. d. Med.*, Paris, 1885, i., 385).

Rainal, on orthopædic bandages (Paris, 1885).

Braatz, gradual extension of the knee-joint by splints (*Centralb. f. orthop. Chir.*, Feb. 1, 1885).

DISEASES OF THE GENITO-URINARY SYSTEM.

BY REGINALD HARRISON, F.R.C.S.,

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I. Cocaine in genito-urinary surgery.

Professor E. L. Keyes (in Knapp's *Cocaine in Surgery*, New York and London, 1885) writes: "I have employed it in watery solution of 2 and 4 per cent., and as a 6 per cent. oleate. In the urethra my experience leads to the conclusion that the effect of the solution in abolishing sensibility is mainly confined to the surface of the canal, and that this effect is more marked in the anterior than in the deeper parts of the urethra. If a 4 per cent. solution is painted several times over the meatus and near it upon the glans penis, and assisted by an injection of 10 minims into the urethra, the latter being retained by compressing the meatus for a few minutes, meatotomy and the division of a stricture near the orifice with a straight bistoury may be accomplished, sometimes without pain. Generally, if the cut is deep, a little pain is complained of, yet so little that it is unimportant. In cases of irritable neck of the bladder, where exploration was desirable, I have not found as much advantage from the remedy as has been claimed by Dr. Otis in his report. In one patient I had occasion to inject the prostatic urethra with a strong solution of the nitrate of silver, about half a drachm to the ounce. In this case I tried the cocaine, following it in five minutes with the nitrate of silver instillation of the usual strength. The pain on introducing the deep urethral syringe was not materially altered, the discomfort immediately attending the nitrate of silver application was as great as before, but no desire to urinate followed, and the subsequent urinary acts were not attended by the usual smarting pain. I have not injected cocaine into the bladder, but

I have employed it in deep urethral injections for subacute gonorrhœal cystitis without any apparent effect. For the urethra my experience leads me to conclude that cocaine is valuable for catheterisation, sounding, explorations, etc., particularly in the front parts of the urethra, less so as we progress more deeply in the canal, but that some effect is obtained throughout. Doubtless with stronger solutions used in larger quantity more satisfactory results may be obtained. Preparatory to making cauterisations for mucous patches, venereal ulcers, and the like, removing warts, excising chancres and small growths upon the penis, the cocaine solution is very valuable in relieving pain, but the effect is not uniformly great upon all subjects, yet it has been obvious in all where I have tried it." Dr. F. N. Otis adds the following remark:—"I think that an important point is in the necessity which I have found of waiting fully fifteen or twenty minutes after the introduction of the cocaine before attempting operative procedures. In a rare case of spasm in the penile urethra at two and a half to four inches from the orifice, the spasm did not give way until twenty minutes after the introduction of a 4 per cent. watery solution, and then only after the glans had become shrivelled and cold. Up to that time only a No. 4 French bougie could be passed; after that a No. 28 was passed and withdrawn without holding." Mr. E. Bellamy (*Lancet*, Feb. 14, 1885) illustrates the use of cocaine in a case of chronic cystitis and irritable bladder. One quarter of a grain in a gelatine bougie was pushed up the urethra and allowed to dissolve. A more extended trial of the drug in this form is recommended.

In referring to the chief uses of cocaine in the examination and treatment of urinary diseases, it must not be forgotten that when a part is rendered insensitive to the touch, it is quite possible to do harm unless additional care is taken in conducting the various manipulations; subject to this reservation the urinary system has reaped quite its share of advantage in connection with the discovery of this important drug.

2. Nephrotomy: its indications and contra-indications.

Dr. S. W. Gross (*American Journal of the Medical Sciences*, July, 1885) writes "From a careful analysis of all the facts pertaining to the surgery of the kidney contained in this paper, based as it is upon a study of nearly 450 cases of different operations, I believe that I am justified in formulating the following propositions for discussion.

1. That lumbar nephrectomy is a safer operation than abdominal nephrectomy.

2. That primary extirpation of the kidney is indicated, first, in sarcoma of adult subjects; secondly, in benign neoplasms at any age; thirdly, in the early stage of tubercular disease; and, lastly, in ureteral fistula.

3. That nephrectomy should not be resorted to until after the failure of other measures, first, in subcutaneous laceration of the kidney; secondly, in protrusion of the kidney through a wound in the loin; thirdly, in recent wounds of the kidney or of the ureter, inflicted in the performance of ovariectomy, hysterectomy, or other operations; fourthly, in suppurative lesions; fifthly, in hydro-nephrosis and cysts; sixthly, in calculus of an otherwise healthy kidney; and, finally, in painful floating kidney.

4. That nephrectomy is absolutely contra-indicated—firstly, in sarcoma of children; secondly, in carcinoma at any age, unless perhaps the disease can be diagnosticated and removed at an early stage; and, thirdly, in the advanced state of tubercular disease.”

The conclusions arrived at in this paper, based as they are on the largest collection of cases relating to the surgery of the kidney which has hitherto been made, will be found of much service in practice. As this organ has only been brought within the reach of surgery in comparatively recent years, we have had but few data to go on, and consequently much has necessarily been left to the judgment of the individual operator. Now that we are in the possession of such a mass of evidence as Professor Gross has collected from all sources, we may confidently hope for a considerable diminution in the mortality connected with operations on the kidney.

3. Litholapaxy.

Dr. Freyer (*Indian Medical Gazette*, April, 1885) furnishes a statement relative to 309 operations for stone in the bladder in his own practice. Litholapaxy was performed on 115 adult males with four deaths, and on three female children, with no deaths. In three female children the calculi were successfully removed by rapid dilatation of the urethra. This was before the introduction of litholapaxy into Dr. Freyer's practice. There were forty-six adult males treated by lithotomy, with nine deaths. In the 142 cases of stone in male children, lateral lithotomy was the operation performed in all, and amongst these no death occurred. Referring to the results from litholapaxy, Dr. Freyer remarks that “it is destined to play an important part in the surgery of the future in this country (India) where unrivalled opportunities abound for its practice in reducing by a large percentage the mortality, as well as the suffering attendant on operations for stone. The

operation can no longer be said to be on its trial. The prejudice against the operation that existed (and still exists) in the minds of many surgeons, and which is in great part due to the association of litholapaxy with the old operation of lithotrity, which is radically different, must gradually vanish before the stern reality of facts. The surgeon who would give his patients suffering from stone the best prospect of recovery must practise litholapaxy. I have no hesitation in saying that in the course of a few years there will be few hospitals in India that will not be provided with litholapaxy instruments." Such a valuable experience as Dr. Freyer furnishes in reference to his operations for stone, cannot fail to be of service to us in this country in our efforts to diminish a mortality which seems capable of a still further reduction. Though much depends on the selection of the operation, it is impossible to over-estimate the importance of skilled and practised manipulations in connection with the performance both of lithotomy and lithotrity. As India presents such an unrivalled field for this kind of experience, it is only natural that we should turn with considerable interest to the records of surgeons practising there in our desire to estimate the true position of a comparatively new operation, such as litholapaxy, in the treatment of stone.

4. Large calculus removed by the high operation.

Sir Henry Thompson (*Lancet*, July 18 and 25, 1885) narrates the particulars of a case where he successfully removed, by Petersen's method, a uric acid calculus weighing 14 ounces. This case illustrates the circumstances under which the supra-pubic operation is to be preferred. For calculi which are clearly too large to be drawn out without breaking under the pubic arch, there can be no doubt that this position is almost a matter of necessity; but for smaller stones, unless there exists some other impediment, either on the part of the patient or the operator, the high operation is never likely to take the place of the lateral. As a successful illustration of the high operation and the class of cases to which this operation is applicable, the case is worthy of record.

5. Treatment of patients suffering from enlargement of the prostate.

Guyon (*Annales des Maladies des Organes Gen-Urinaires*, May, 1885), having regard to the congested condition of the gland as being in a large measure responsible for impaired micturition, advises—(1) The avoidance of causes of general or local chill. (2) Avoidance of excess in eating and in the use of alcohol, salads, meats, fish, shell-fish, white wines and champagne, moderation in

drinking, and in the use of medicinal waters. (3) Voluntary and prolonged retention of urine should be avoided, as being liable not only to weaken the bladder, but to produce complications such as cystitis. (4) Moderate indulgence in sexual intercourse is advised. (5) Consideration of the unfavourable influence exerted by prolonged horizontal decubitus and immobilisation. Prolonged rest in bed should be avoided, and before retiring the patient should, if unable to walk in the open air, promenade in his room for fifteen or twenty minutes, and in the morning such exercise should be repeated. Sedentary habits should be avoided, as well as over-fatigue. Constipation should be obviated without the use of drastic medicine. A copious warm or cold enema in the morning is often of much service. Emollient enemata, before retiring, frequently yield good results. (6) The functions of the skin should be promoted by friction and massage. Baths should not be prolonged over fifteen minutes. Of medicines, Guyon recommends:—(1) As a remedy for the sclerosis of the urinary apparatus, the use of iodide of potassium, in doses of 8 to 15 grains daily, to be continued for periods of months or years, with occasional interval of a week's cessation. (2) For the state of congestion, the use of ergot, nux vomica, and strychnia. (3) For vesical irritation, belladonna, hyoscyamus, and valerian are to be preferred to opium, and will be found sufficiently active. The bromides do not seem to be of much service, but may be tried. These measures, hygienic and medicinal, will, it is urged, suffice to overcome many of the functional disturbances connected with micturition, to which persons with large prostates are liable, and it is only when they fail, or in cases of urgency, that the catheter should be resorted to. Though much advantage is likely to attend the adoption of these suggestions, it must never be lost sight of, when signs of obstruction to the discharge of urine from the bladder develop, how much may be done by the early use of a soft bougie in maintaining the form of the urethra, and preventing the obliteration of the canal by the growing gland. If we cannot stop the prostate enlarging, we can, at all events, take care that the urethra, as it passes through it, is not encroached upon. The prevention of prostatic obstruction is a matter of the first importance, as much subsequent distress may, as a rule, be prevented.

6. Washing out the bladder.

Mr. Buckston Browne (*Lancet*, Oct. 18, 1884) describes a simple contrivance applicable to almost any catheter for washing out the bladder. By means of it an ordinary Higginson's syringe can be adapted for forcing the requisite fluid into the bladder; by merely removing the finger the current is reversed. By this

contrivance the process of washing out the bladder is simplified, whilst at the same time it is rendered thoroughly efficient.

7. Naphthalin in cases of offensive urine.

Naphthalin (*Medical Chronicle*, Jan., 1885) has been largely used in Germany during the last two years as an antiseptic. Amongst other cases it appears to have been very useful in certain diseases of the bladder associated with putrefactive decomposition of its contents. Though in most instances retained urine is the cause of the offensive smell which is thus generated, still, in spite of catheterism and irrigation, a disagreeable odour will sometimes remain. Under these circumstances the administration of naphthalin will be found exceedingly useful. I have generally prescribed it in a pill containing two grains, enclosed in a gelatine capsule. If this is given three or four times a day, the naphthalin odour will soon be found to take the place of the still more disagreeable one the urine is capable of generating.

8. Removal of villous tumour of the bladder.

Mr. Pitts (*Proceedings of Clinical Society*, London, May, 1885) records a case where he removed a growth of this kind through a



perineal opening by means of an *écraseur*. I have also described (*British Medical Journal*, Aug. 15, 1885) a form of forceps, made for me by Messrs. Krohne and Sesemann, which have been found well adapted for the purpose. They consist of an ordinary pair of bladder forceps with a free margin; by this contrivance it is almost impossible to do any damage to the wall of the bladder itself.

9. The treatment of rupture of the bladder.

Gueterbock (*Archiv. für klin. Chirurgie*, xxxi., 2) urges laparotomy without delay when the diagnosis of vesical rupture is at all certain. He advises sewing the edges of the rent to those of the abdominal wound, the subsequent treatment being the same as that pursued after supra-pubic lithotomy. Where the rupture is situated in the anterior wall of the bladder this proceeding would recommend itself; where, however, the laceration is in the usual position, that is to say, somewhere in the fundus of the viscus, I think it would be better practice to close the opening with sutures, and to drain the urine through a perineal incision, as for lateral lithotomy.

10. On the treatment of some chronic forms of suppuration of the male urethra.

(*Lancet*, Sept. 5, 1885.) I have in this paper illustrated the employment of median cystotomy, with bladder drainage, in obstinate cases of this kind. In this way not only is the formation of a stricture prevented, but the urethra, or as it often happens, some sinus connected with it, heals under the influence of rest.

11. On the treatment of stone in female children.

(*Provincial Medical Journal*, Aug., 1885.) I advocate the removal of stone under these circumstances by litholapaxy, with only slight dilatation of the urethra, or if the stone is too large or too hard, by supra-pubic section. Dilatation of the urethra and extraction of the stone by forceps is so frequently followed by urinary incontinence as to make this proceeding undesirable, except to a more limited extent than is usually practised.

12. On the treatment of urethral stricture by combining external and internal urethrotomy.

(*British Medical Journal*, July 18, 1885.) The conclusions I base on ten cases here recorded, and which number I have now added to, are that by not allowing urine to remain in contact with the internal urethrotomy wound during the healing process (1) rigors and fever are entirely avoided, and (2) a cicatricial splice is introduced into the urethra, which, by being formed without contact with urine, shows less disposition to subsequent contraction. Reference is made, as explanatory of the production of urethral fever after certain operations on the urethra, to the possibility of alkaloids formed from normal urine, as suggested by Bouchard (*British Medical Journal*, June 6th, 1885), becoming absorbed. The drainage tubes I employ in these operations are usually of gum-elastic, four or five inches in length, and somewhat less in thickness than an ordinary index finger. They are secured by an eye on each side, through which a tape can be passed; they are

also fitted with a piece of india-rubber tubing, by means of which the urine is conducted into a receptacle by the patient's bed-side. In some cases, where the floor of the bladder is very irregular, or is sacculated, a double drainage tube (on the same principle as the double tracheotomy tube) is preferable. The length of the drainage tube in its relation to the interior of the bladder is of importance—it should be just within the bladder, and no more. I have drainage tubes of different lengths, and verify their suitability to each case by rectal examination. After they have been inserted in this way, a correct fit and thorough drainage are obtained. In these, as well as in all operations on the urinary organs, the most absolute cleanliness and perfect urine-drainage are matters of the greatest importance. It is not only in operations for stricture, but also in lithotomy, that success is largely due to the recognition of these and other principles which, in their entirety, constitute the antiseptic method.

13. Supra-pubic cystotomy.

Mr. F. Swinford Edwards (*Medical Times*, May 30, 1885) advocates this operation “for establishing a permanent outlet for the urine in cases of enlarged prostate and contracted bladder where the patient, having to void on all occasions his urine by means of an instrument, lives in constant dread of the never-ending instrumentation.” As my experience upon this point hardly corresponds with Mr. Edwards', I will quote in continuance from his lecture: “Of the relative merits of the supra-pubic and prostatic punctures in cases of distended bladder with enlarged prostate, it is difficult to judge until we have more cases of the latter submitted to us. Personally I should be inclined to favour the prostatic puncture, on account of the capital drain it provides, and I should not be surprised were it in the future to take the place of both the rectal and supra-pubic punctures where the outlet for the urine has to be permanent.” Speaking for myself, where I had to open the bladder for the purpose of establishing a permanent drain, I should much prefer doing so from the perineum, inasmuch as this enables the operator to deal with the cause of the obstruction, namely, the enlarged prostate. I have now recorded several cases where the condition of the prostate was permanently improved by what was done, no permanent outlet proving necessary. For affording temporary relief, as for instance, with the aspirator, no better place can be selected than above the pubes; but so far as my experience has gone, I prefer to approach the bladder from the perineum, either with the knife or the prostatic trocar, if there is a prospect of making the opening permanent.

14. Reflex irritations of the genito-urinary organs.

Dr. C. H. Mastin (*Gaillard's Medical Journal*, April, 1885) draws attention to the treatment of chronic urethral discharges, and irritable urethras due to a contraction of the meatus, which frequently follows the early removal by circumcision of the prepuce; the most frequent sufferers being persons of the Jewish faith. Dr. Mastin remarks: "In illustration of my subject, I have selected three typical cases, each manifesting a different phenomenon, yet all springing from one and the same root. In one instance we find relaxation with its attendant enuresis; in another, a loss of the virile power and unhinging of the nervous system; whilst in the third, we see a spasmodic condition of a segment of the urethral canal, a perturbation of the nervous force with its reaction upon the mental and moral condition of the patient. We have traced out and established the undoubted cause which has been at work, and the result of the treatment proves the correctness of the diagnosis." In each instance the treatment consisted in a division of the contracted meatus and dilatation.

15. Bladder drainage-plugs for stopping hæmorrhage after perineal lithotomy.

(*Annals of Surgery*, June, 1885.) I have described a form of lithotomy tube which is well adapted for arresting hæmorrhage after operations on the bladder from the perineum; it consists of a tube thicker than the finger, fitting the wound, through which an ordinary rubber catheter is passed; by the latter the urine escapes, whilst by the size of the tube firm pressure is exercised on the cut surfaces. For this purpose this apparatus has taken the place of all others, such as the umbrella- and air-tampon, in my practice, with a success that warrants me in recommending its more general adoption. The wound can be kept thoroughly clean, and thus a frequent cause of septic infection where immediate or secondary hæmorrhage occurs is avoided. These plugs are made in different sizes by Messrs. Krohne and Sesemann.

SURGICAL DISEASES OF CHILDREN.

BY EDMUND OWEN, F.R.C.S.,

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1. Intussusception in a child, with recovery.

Dr. Hertzka (*Archiv für Kinderkrank.* vi., 161) reports the case of a child, aged five and a half years, with undoubted intussusception, which he treated by warm baths and poultices, and copious injections of warm water through a hard tube. The child recovered in ten days.

This is the record of one of those mysterious cases in which, with all the symptoms of acute internal strangulation, recovery followed the use of copious enemata. This treatment is, to say the least, common enough, and every now and then the child recovers after its energetic adoption. It is justifiable only in the early hours of the acute strangulation, before the opposed surfaces of the peritoneum are glued together by adhesive inflammation. After twenty-four or thirty-six hours it could scarcely be recommended, for if its influence were not beneficial it would assuredly do harm. If tried once in a case and found unavailing, there should be no subsequent resort to it. Probably as time goes on and experience is accumulated in connection with intussusception, early operation will be resorted to as a means of arriving at an absolute knowledge of the causation of the symptoms, and of affording certain and immediate relief to the urgent symptoms. It seems inevitable that internal strangulation must eventually be regarded in exactly the same light as that which guides one in dealing with an external strangulation of the bowel. The employment of copious enemata, together with manipulation of the coils of intestine through the abdominal walls, is for an internal strangulation just what repeated taxis is for the other; and the aphorism, ascribed to Desault, will serve with equal force:—

“Think well of that hernia which has been little handled and quickly operated on.”

2. Abdominal surgery in children.

Wagner (*Archiv für klin. Chirurgie*, xxx., 1884, 504—522) gives an account of four cases of abdominal tumours in children, upon which Thiersch operated. Two of the tumours were round-celled sarcomata of the left ovary. The first case died from shock on the day after the operation; the second case recovered. The remaining two cases presented each a tumour of the kidney. The one was during life mistaken for a hydatid cyst of the liver, and Thiersch proceeded to operate upon it by the Paquelin cautery, after a previous application of chloride of zinc paste. It was then found that the tumour was really a hydronephrosis of the right side. Thiersch first ascertained the presence of the left kidney, and then extirpated the whole of the hydronephrosis, together with a portion of normal kidney substance which remained. The patient recovered. In the fourth case a diagnosis could not be positively made between tumour of the ovary or of the kidney on the right side. On opening the abdomen the tumour was seen to spring from the right kidney, but the left kidney was also found to be transformed into a tumour, the size of a fist, which, of course, compelled the surgeon to abandon the operation. The child died in a few weeks, and the tumours then proved to be round-celled sarcomata.

The foregoing reports afford fresh and ample evidence, were such required, of the advance which operative surgery is making as regards the peritoneal cavity of the child. Ovariectomy in childhood has now been performed with success in cases too numerous for individual reference, but operation for the removal of malignant disease of the kidney is of such rare occurrence as to demand more than passing notice. The condition for which sarcoma of the kidney is likely to be mistaken is perinephritic or lumbar abscess, but puncture with a grooved needle quickly determines the diagnosis. The tumour, if left, grows to an enormous size, pushing the bag of peritoneum and the viscera across the abdomen until they occupy perhaps but a fourth of the area which is their due; a smooth and elastic mass, dull on percussion, extends throughout the flank and bulges along the lateral front of the abdomen; the child becomes pale and shrunken, and eventually succumbs to inevitable exhaustion. Operative surgery alone can afford relief, though the probability which it can offer of a successful issue must needs be remote.

The case of hydronephrosis is an important one, and the result of the entire removal of the tumour, together with the remnant of

the renal tissue, was extremely satisfactory. It is an interesting question, however, as to whether, if the correct diagnosis had been made before the exploration, the surgeon would have deemed extirpation necessary. For our own part, and speaking from observations founded on a single case, we would have been inclined to urge that no cutting operation should be performed; that the pressure of the fluid against the secreting tissue of the kidney should be allowed to procure the complete obliteration of that tissue, the fluid being eventually removed by aspiration should it not have undergone absorption. Having laid open the cyst, however, Thiersch did well to extirpate the kidney rather than to resort to drainage; such a procedure would have entailed a tedious, exhausting, and, probably, fatal discharge.

3. Treatment of deformities from infantile paralysis.

Rockwitz (*Deutsch. Zeitschr. für Chirurgie*, 1883, bd. xix.), from the observation of cases in the practice of Prof. Lücke, recommends that the normal position of the limbs should, if possible, be obtained by continued traction and forced extension. If this be not sufficient, then the tendons of all muscles which hinder the replacement should be cut through, and bands applied to maintain the correct position. The function of the limb is to be restored by the use of well-constructed supports and by gymnastic exercises, while electric treatment by strong continuous currents should be persisted in for some time. The general condition of the patient should be improved by diet, baths, frictions, and tonics.

Though the surgical treatment of deformities which are secondary to infantile paralysis is, as a rule, unsatisfactory to the surgeon and disappointing to the parents, still a good deal may be accomplished in many cases by subcutaneous tenotomy. The commonest deformity is probably that in which, from paralysis of the anterior muscles of the leg, the heel is drawn up and the foot is inverted. And even if the power of contraction should be at length partially or completely regained by those muscles, a considerable amount of equinus persists. The deformity is probably due, not so much to the active contraction of the calf muscles as to the atrophy which they undergo subsequent to the extension and inversion into which the helpless foot naturally falls. The deformity would be, no doubt, increased by the weight of the bed-clothes upon the toes.

As a prophylaxis, therefore, against deformity in the treatment of infantile paralysis of the leg, as soon as the hyperæsthetic stage has passed away, the leg and foot should be regularly and

methodically worked into all those positions which would otherwise be neglected in the voluntary movements of the child. The feeble limb should be shielded from the weight of the clothes by a bed-cradle, and by specially warm clothing; and, by kneadings and frictions, the nutrition of the muscles should be maintained in the highest state of excellence, during the time needful for the utmost repair of which the cells in the grey crescent of the cord are capable. After tenotomy the foot should be enclosed in a plaster of Paris case, and relapse to the former position should, as Lücke suggests, be hindered by mechanical means. As has been sometimes recommended, the deformity of the foot, which is secondary to infantile paralysis, should not be refused the benefit of tenotomy simply because the deformity is the result of paralysis; by all means let the paralysed limb be placed in a good position.

4. Genu valgum in children.

Professor Lucke (*Centralbl. f. Chirurg.*, 1884, No. 10) believes that he has found a cause for genu valgum, in certain cases, in the use of stocking-suspenders, which attach the stocking to the pelvis. The child, he asserts, finds the pressure of the elastic band uncomfortable, and rotates the leg outwards to avoid it.

Though it is not suggested that this cause is operative in many cases of knock-knee, still it is well that the existence of such a factor in the production of the deformity be recognised. Certainly in no valgous child should this constant strain be permitted across the retiring (lateral) angle of the knee.

5. Hip-joint disease.

Mr. Cowell (*Westminster Hospital Reports*, 1885); Mr. Croft (*British Medical Journal*, June 6, 1885). Mr. Cowell's paper is mostly concerned with the consideration of the chief causes of the failure in connection with the after-results of excision of the hip. He regards the existence of *grating* in the joint as a strong indication for resorting to excision. Indeed, whenever grating co-exists with persistent pain, with profuse suppuration, or with failure of health, he operates. Thus, probably, is explained the fact that from 1869 to 1882 he performed resection of the hip-joint in no less than sixty-five subjects. "In cases of this description," that is when grating co-exists with the other symptom, "more lives are saved and more useful limbs are obtained by excision than by trusting to natural processes." Such a statement is, of course, *petitio principii*, and one which the reviewer, who holds more conservative views on this important question, is disinclined forthwith to grant. After such a postulate one is almost prepared to find that a "great cause of failure is the undue postponement of

the operation. . . . A rule which to my mind is most firmly established is that the younger the patient the better the result of the excision." Such a statement is anything but acceptable, and the sentence by which it is immediately followed seems to convey well-merited reproof to it: "There is an extraordinary reparative power in young children."

As regards the operation, Mr. Cowell urges the removal of the great trochanter with the head and neck of the femur; he leaves a thin layer of cartilage of the great trochanter so as not to disturb the insertion of muscles into it, "and I attribute in no small measure to this practice the complete command of the limb which these young patients have recovered." He uses a weak antiseptic lotion, and large absorbent pads, which are secured by elastic bandages. He fixes the limb in Bryant's double splint, keeps a careful look out for thorough drainage, and persistently guards against eversion of the limb.

Mr. Croft's paper is that read before the South London District of the Metropolitan Counties Branch of the British Medical Association, and which, unfortunately, was not thoroughly discussed. It is unnecessary to follow the author in his pathological remarks; it is in the matter of treatment that this review is chiefly concerned:—"Simply applying an improved hip-splint for a diseased joint does not ensure complete rest. So long as the muscles and ligaments around the joint are not in absolute rest the joint is not functionally at rest. I am convinced that interruption of absolute rest by passive movements of the diseased joint is very injurious, and an unscientific proceeding. It is as unsound in practice as inefficient rest. I have never seen ill results from properly conducted absolute rest, but I have often witnessed the mischief of interrupting the continuity of absolute rest. I advocate absolute rest with the view of preventing the occurrence of the possible necrosis. The formation of a sequestrum in the acetabular part of the joint, or in the head of the femur, must, at any period of the disease, be a serious complication, as it entails protracted illness and abscesses, and, probably, such operative treatment as is not uncommonly called for in the later stages. Early check of inflammation may prevent the necrosis. When caseous products of inflammation infiltrate a portion of bone, this, in all probability, will become necrotic or carious. We can say this much, that perfect rest is the treatment best adapted to prevent necrosis, and I have pointed out that sequestra have been found in from 35 to 60 per cent. of examined morbid specimens. I would quote the occurrence of the shortening of the limb, which has been found in not a few

cases cured in the first stage, as another reason for observing strict rest in the early treatment. The early reduction of the inflammation, both in its local extent and severity, one would expect to have a material influence over the consequences to the growth of the bones concerned. This applies more particularly to affections of the femoral epiphysis, whether they occur primarily or secondarily.

“With reference to local applications, my experience is against the employment of irritants, setons, issues, and the like. I have found leeching useful in relieving acute sensitiveness and pain in acute attacks of inflammation, such as we now and then meet with in the course of chronic diseases. In a similar way, poultices and soothing fomentations are occasionally needed. Their habitual use is not desirable. The whole limb should be kept warm, and scrupulously clean by washing, and it should be systematically rubbed to maintain the suppleness of the muscles and joints below the hip, as this obviates some of the minor ills of long confinement.

“The splint which I employ almost exclusively is a modification of Thomas’s back-splint for the disease.”

In the early part of his remarks upon the treatment of hip-joint disease, Mr. Croft combats and demolishes the theory that during the observance of rest for the articulation apparatus should be taken off from time to time and the joint gently exercised, lest permanent stiffness should follow. Thomas, of Liverpool, has already directed attention to the fallacy of the treatment by extension and movement, and has suggested that the best commentary upon it is the remarkable frequency with which its principal advocate has had to perform excision of the joint.* The surgeon need give no thought to the question of eventual stiffness. Stiffness there may be, possibly from actual synostosis, but this will be in spite of the observance of the grand principle of rest, and not on account of it.

There is another matter to which Mr. Croft alludes, and which, unfortunately, does not always obtain due recognition; that is, that however simple a case of hip disease may appear, and that however soon it may be brought under the influence of judicious and long-continued supervision, arrest of growth of the limb may result. This is to be attributed to the fact that the junction cartilage between the shaft of the femur and its upper epiphysis is entirely within the hip-joint, and directly influenced by the pathological process to which the inflamed articulation is subjected.

* “Diseases of Hip, Knee, and Ankle Joints.” Second Edition, p. 6.

Thus, when careful examination is made of a hip which has undergone a long-continued course of disease, the top of the great trochanter is found approaching the iliac crest. Sometimes this attendant shortening of the limb co-exists with inversion, sometimes with eversion. In the former case the signs correspond closely with those found in dislocation of the head of the femur. I am, however, strongly of opinion that luxation of the femur in hip-joint disease is an extremely rare contingency.

With regard to the matter of deformity, the practitioner should state at the outset of treatment that permanent shortening is very apt to attend on the disease; in this way he will secure himself from all unjust reproach.

Mr. Croft does well to call attention to the fact that leeches and poultices may afford timely relief to an acutely-inflamed and tender hip; yet how rarely does one find advantage taken of these valuable agencies in early hip effusion.

6. Spina bifida.

An abstract of the valuable report of the committee appointed by the Clinical Society to inquire into the anatomy of spina bifida, and its treatment by the injection of iodo-glycerine, was read on May 22nd, 1885, by Mr. R. W. Parker.

In order to determine more clearly than had hitherto been done the pathological conditions included under the head of spina bifida, the committee undertook an examination of all the specimens of the deformity contained in the London museums, as well as in those in Cambridge and Glasgow, and sundry others placed at their disposal by different contributors to the report. The subject was divided into two parts: first, the pathological anatomy of spina bifida; and, secondly, the treatment of the deformity. *Pathological Anatomy.*—The term spina bifida was used to define certain congenital malformations of the vertebral canal, with protrusion of some of its contents in the form of a fluid tumour. With very rare exceptions, the malformation affected the neural arches of the vertebræ, and the tumour projected posteriorly; in rare cases, however, the bodies of the vertebræ were involved, and the tumour protruded into the thorax, abdomen, or pelvis, between the lateral halves of the bodies affected. The museum specimens were discussed under the following headings:—1, position of the tumour; 2, size and configuration of the sac; 3, coverings of the sac; 4, disposition of meninges within the tumour; 5, size and configuration of the deficiency in the neural arches; 6, disposition of the spinal cord and nerves; 7, unusual variations; 8, the process of cure. The result tended to show that the specimens fell under three chief divisions: 1, protrusion of membranes only

(spinal meningocele); 2, protrusion of membranes, together with the spinal cord, and its appertaining nerves (meningo-myelocele); and 3, protrusion of the membranes, together with the spinal cord, the central canal of which was dilated so as to form the sac-cavity, the innermost lining being constituted by the expanded and atrophied substance of the cord (syringo-myelocele). As to the comparative frequency of these three varieties, the committee stated that the second, meningo-myelocele, was by far the most frequent, while simple meningocele came next, and syringo-myelocele last.

Concerning simple meningocele, and cases where there was dilatation of the central canal of the cord, little was said, except that they might very easily be mistaken one for the other; for both sacs were free from nerves, and a careful dissection was often necessary in order to distinguish them. In some cases of meningocele, with a large communication with the vertebral canal, the cord could be seen lying at the bottom of the sac in the vertebral canal, and then there could be no difficulty about the diagnosis. Besides these three chief varieties, mention was made of several variations; among these, the division of the sac into smaller loculi, and the occurrence of bony outgrowths across the vertebral canal, button-holing the spinal cord, were the most remarkable. Careful microscopic examination of the sac-wall in a typical case of meningo-myelocele had disclosed the continuation of the central nervous system within its median vertical portion, the integrity of the central canal of the cord within this part, and the absence of the true skin over it. It further displayed the absence of any meningeal cavities behind the incorporated portion of the spinal cord. It was clear, therefore, in the first place, that the nerve-roots, which traversed the sac, arose from this intramural portion of the central nervous system, and that all expressions of descriptive pathological anatomy which implied a distribution of the nerves to the sac-wall were a reversal of facts. The theory, therefore, which best explained the pathological anatomy of spina bifida, was that which assumed a primary defect of development of the meso-blast, from which the structures closing in the vertebral furrow were developed.

In order to form a correct estimate of the value of treatment by the injection of Dr. Morton's iodo-glycerine solution, the committee had endeavoured to ascertain as far as possible the natural history of the deformity when untreated, and had prepared tables of cases treated in various manners for the purposes of comparison. As regarded the natural history of the deformity, the Registrar-General's report for 1882 showed 649 deaths from spina bifida in

England and Wales, of which 612 occurred under one year of age. The tables next dealt with treatment by injection of simple solutions of iodine, and showed a considerable amount of success. Then ligature of the sac was considered, and here again good results seemed to have been obtained. Excision likewise had a considerable proportion of success. The plan of repeated tapping and pressure gave the least successful results of any. The injection of Morton's fluid, according to the committee's tables, showed a percentage success of between 50 and 60. The high mortality was thought to be, in unsuitable cases, largely due to the treatment having been adopted on account of its simplicity and supposed safety. In spite of the favourable results of ligature and excision of the tumour as shown in the tables, the committee felt themselves compelled to report against these methods of treatment. There was reason to think that the published cases might be misleading, owing to some cases of failure not being recorded, while all the successes, being regarded as surgical triumphs, were almost certain to have been reported. Moreover, it seemed probable that a careful selection of cases had been made. The committee, therefore, advocated the plan of treatment by injection—and preferably by the injection of Morton's fluid.

7. *Spina bifida.*

Demme (*Wiener Med. Blätter*, 1884, Nos. 26 and 27) lays stress on the necessity of an accurate diagnosis between hydro-meningocele and myelo-meningocele before treating a case of spina bifida. As evidence of the existence of a pure hydro-meningocele Demme points out:

1. A small vertebral cleft, or even the absence of any cleft, the hernia taking place through one of the intervertebral foramina.
2. Small and thin pedicle of the tumour.
3. Well-marked transparency.
4. If the tumour is in the lumbar or sacral region, the absence of a central depression from attachment of the filum terminale.
5. The absence of paralysis.
6. The absence of convulsions and stupor on pressure of the tumour.

On the other hand, myelo-meningocele is rendered more probable if

1. The tumour extends over several vertebrae.
2. The centre of the tumour is depressed.
3. Hydrocephalus is present.
4. There is paralysis of the lower extremities.
5. Presence of club-foot.
6. Spontaneous convulsions.

For myelo-meningocele, in which there are limited spina bifida, little or no appearance of paralysis and no convulsions on pressure, Demme recommends Koch's operation: The removal of oval pieces of skin at the border of the tumour and suture of the edges of the resulting wound. The same procedure may be adopted in extensive spina bifida, where there is exceptionally pure hydro-meningocele. When the tumour has a thin pedicle, where it issues from a narrow cleft in the vertebræ, or from an intervertebral foramen, and consists of a pure hydro-meningocele, Brainard's operation of puncture with injection of solution of iodine may be performed.

8. Treatment of spina bifida.

Turretta (*Centralb. f. Chirurg.*, 1884, p. 797) treated a case successfully by the elastic ligature.

9. Congenital sacral cyst.

Dr. Fowler (*Annals of Surgery*, 1885, i., pp. 115—119) describes the case of a child, aged two months, who had a large congenital cystoid tumour in the sacral region with absence of the whole of the coccyx and of the greater part of the sacrum. The tumour fluctuated and became fuller when the child cried or took a deep inspiration, and was not diminished by pressure. Fowler punctured the cyst several times, removing a clear albuminous fluid, but the cyst refilled after each operation. He then attempted to remove the cyst, but found that the posterior portion of the tumour formed part of the wall of the pelvis. The patient died a few hours after the operation.

10. Traumatic cephal-hydrocele.

Mr. Rickman J. Godlee (*Medical Times*, Jan. 10, 1885) brought forward two reports of this rare condition. An infant, of eight months, fell from a height on to the head; a pulsating tumour occurred, and on puncturing it a muddy fluid was withdrawn. The infant died. At the *post-mortem* examination a large hæmatoma was found to communicate with the interior of the descending horn of the lateral ventricle by means of a wide gap in the parietal bone. The other case was very similar; at the autopsy the bone was found thin and partially absorbed.

In these cases the wave of intracranial pulsation is transmitted through the fissured bone to the blood-swelling of the scalp, but pulsation is not always present. Tapping is the only active treatment generally advisable, but, should suppuration ensue, free incision, antiseptic washings, and drainage would be needed. The prognosis is grave. (Further references concerning pulsating tumours of the scalp may be found in the *American Journal of*

Medical Science, for July, 1884, and in the *Guy's Hospital Reports* for that year.)

11. Gonorrhœal rheumatism in infants, the result of purulent ophthalmia.

Mr. Clement Lucas (*British Medical Journal*, July 11, 1885) reports the case of an infant who was born at the beginning of this year, the mother being then the subject of gonorrhœa. A day or two after birth the child was noticed to have a purulent discharge from the eyes, and was treated from the hospital with alum lotion.

Of the inoculation of gonorrhœal virus, as the cause of the purulent ophthalmia, there could be no doubt; all three patients, father, mother, and infant, who had been inoculated in succession, were under hospital treatment at the same time.

About a fortnight after birth, whilst the discharge from the conjunctiva of the infant was still profuse, the mother noticed that its left knee was enlarged and painful, and that the child cried when it was moved. A little later the left hand was observed to drop, and the left wrist was noticed to be painful on movement. The knee was greatly enlarged, and contained a considerable quantity of fluid (so that the patella floated); and the skin was sufficiently red to indicate a not far-distant suppuration. The swelling was equally distributed above and below, so that it could not be traced to inflammation of either epiphysis. The mother said the knee had gradually increased in size since she first noticed it painful. The wrist was enlarged, but not red. It creaked on movement, and this caused pain, so that the child cried. The only treatment employed was the application of dilute lead lotion over the inflamed joints, a lotion of alum being dropped into the eyes, every half hour, after bathing away the discharge. In due course the eyes and the joints completely recovered.

Mr. Lucas is not aware that any connection between ophthalmia neonatorum and synovitis has ever been observed or described; but there seems no just reason if, as is generally supposed, the synovitis of gonorrhœa be the result of absorption of morbid products from the urethral mucous membrane, why the conjunctival mucous membrane should not offer an equally favourable absorbing surface.

The articular trouble was evidently the result of absorption of septic matter from the suppurating conjunctiva; and the only exception that one can take to the paper is probably the heading; "Gonorrhœal rheumatism" is altogether a misnomer. Indeed, I venture to doubt if there be such a disease as true gonorrhœal rheumatism. The articular trouble from which a patient—

man, woman, or child—suffers during the existence of urethral suppuration is a truly septic arthritis. The course of the fever is uninfluenced by the administration of salicylic acid or alkali, and the indication for treatment is to get the purulent discharge well as quickly as possible. But disregarding for the moment the pathology of the joint disease, the adjective “gonorrhœal” (γονη, semen) is strangely inappropriate, as the purulent absorption took place from the conjunctiva.

12. *Blenorrhœa neonatorum.*

Dr. Stratz (*Centralbl. f. Gynäkol.*, No. 17, 1885) records results of Credé's method of disinfecting eyes of all new-born children, as carried out in the Berlin Clinic. Results are reported as highly satisfactory. A solution of corrosive sublimate was employed, at first 1 in 1,000, but, subsequently, to avoid irritation of eyelids, 1 in 5,000.

VENEREAL DISEASES.

By ALFRED COOPER, F.R.C.S.,

Surgeon to the Lock Hospital.

1. The treatment of the soft chancre.

Dr. Unna, of Hamburg (*Viertelj. f. Derm. und Syph.*, iii., u. iv., 1884, s. 540), states that in the treatment of the soft sore there are two principal indications to be fulfilled. (1) To destroy the poison contained in the ulcer in order to prevent its spread, whether by continuity or through the lymphatic vessels; (2) to avoid everything likely to cause thickening or induration of the base of the ulcer, and consequent apparent resemblance to the initial sclerosis of syphilis. These indications are fulfilled by iodoform, which destroys the morbid germs, and, when used early, prevents a suppurating bubo. It never causes induration. It in no way affects a developing sclerosis, so that no confusion arises from its use. Moreover, it soothes pain and promotes healing. Its odour is the only objectionable feature. This cannot be removed, and it is therefore desirable to use a minimum quantity of the drug. Unna recommends iodoform dissolved in ether, as being more rapidly efficacious than the powder. The spray apparatus may be conveniently utilised, especially when the ulcers are either large or multiple. The application is made in this way: the ethereal solution is applied to the ulcer by means of a plug of cotton-wool, and, while in position, a current of air is directed upon it. The ether is volatilised, and a minute quantity of iodoform is deposited at the desired spot. Over this is placed a piece of fenestrated plaster, large enough to cover the sore. Some scented wadding fastened near this dressing will serve to mask the odour of the drug, and the application is renewed every twenty-four hours. When the sore is situated at the orifice of the urethra, a bougie composed of iodoform, gum arabic, tragacanth, and glycerine is to be freely

applied several times a day, and a plug of scented wadding can be placed between the lips of the orifice.

2. How to deodorise and prescribe iodoform.

Dr. Stout, of Florence, New Jersey (*The Therapeutic Gazette*, August, 1885), states that he has discovered three substances which deodorise or modify the odour of this drug without altering its effects, either chemically or therapeutically. These substances are *coumarin*, *vanillin*, and *cinnamic acid*. They may be used either separately or in combination. Coumarin, the odoriferous principle of the tonka bean, appears to be the best of the three. One part is sufficient to mask the odour of nine parts of iodoform. Vanillin is used in the same proportion, while two parts of cinnamic acid are required. Dr. Stout gives formulæ for powders, ointment, pills, and an ethereal solution of iodoform.

3. The effect of warmth upon the soft chancre.

MM. Martineau and Lormand (*Annales de Dermatologie et de Syphiligraphie*, Feb., 1885, p. 120), at the Hôpital de Lourcine, have treated many cases of simple chancre and open suppurating buboes by keeping the patients in hot baths (102° to 104° F.) for several hours at a time. In dealing with open buboes, care was taken that the water should come in contact with all parts of the ulcerated surface, drainage tubes and plugs of absorbent wadding being applied when necessary to keep the wounds open. The result was found to be very satisfactory. The virulence of the secretions appeared to be destroyed, and only in one case did auto-inoculation take place. After a few baths, the open buboes were converted into healthy granulating sores, and the treatment was found especially suitable for cases of phagedæna. The results in cases of suppurating buboes which had not opened appeared to be negative, though M. Aubert, of Lyons, asserts that even in these cases warm baths will deprive the pus of its virulence. While the patient is in the bath, cold compresses should be applied to the head, and other means adopted to prevent syncope. Immersion of the lower half of the body is of course sufficient.

4. Cocaine as an application to venereal sores.

This newly-discovered anæsthetic agent is useful as an application to painful venereal sores, and good results have been obtained in painful gonorrhœa by injecting a few drops of a two per cent. solution of hydrochlorate of cocaine four or five times a day. Dr. Bono (*Gaz. delle Cliniche*, 1885, i.). The same application is serviceable before using strong astringent injections, and as a prelude to the introduction of the endoscope, and in cases of stricture. Its effects are also very satisfactory upon soft sores in the

neighbourhood of mucous orifices, also in cases of vulvitis, and of secondary or tertiary ulceration near the anus.

5. Pyrogallic acid as a remedy for phagedænic chancres.

M. Terillon (*Union Médicale*, July 4, 1885) recommends a mixture of pyrogallic acid 20 parts, starch powder 80 parts, as an application to phagedænic chancres. The powders are to be carefully mixed, kept dry in a well-stoppered bottle, and used only when fresh. In chancres with ragged edges and multiple prolongations, the powder is to be blown twice daily into the depths of the sore by means of an insufflator.

6. Excision of the primary induration.

Professor M. P. Diday (*Annales de Dermatol. et de Syph.*, 1884, p. 580), in a clinical lecture delivered at the Hôpital de la Charité, discusses the well-worn question of the eradication of syphilis by excision of the primary sore. He alludes to the experience of those German surgeons who still advocate this method of procedure. He designates as "strange and amazing" the statement of those authorities who declare that, even when the glands are affected and secondary symptoms are present, excision of the induration will be attended with good results. This practice is founded upon the view that the induration is a focus in which the syphilitic germs multiply. Diday thinks that the operation is justifiable in cases of recent chancres, especially if situated on the labia, prepuce, or scrotum, but that it is useless to interfere with indurated glands. Some years ago he proposed subcutaneous section of the lymphatic vessels leading from the chancre. He disapproves of attempts to destroy the chancre by means of caustics.

7. The nature and treatment of syphilis.

At the meeting of the British Medical Association in 1884, **Mr. Alfred Cooper** read a paper on the above subject. (*Brit. Med. Journ.*, Oct. 18, 1884.) He expressed himself as opposed to the practice of removing the primary induration, whether by excision or by cauterants, regarding it as the local expression of the general infection of the system. He advocated early and continuous treatment by mercury, and preferably the internal use of blue pill in small doses, and in courses, each of several months, spread over a period of two years. In no case should marriage be advised unless this thorough treatment had been undergone. Mercury thus administered not only mitigates the course of the disease, but, in some cases, positively prevents the advent of secondary symptoms. Slight evidences of scrofula do not contraindicate the use of mercury, but the drug must be withheld from

tuberculous subjects, and from cases threatened with phagedæna. The iodide of potassium is not an efficacious remedy for syphilis in its early stages, but it may be used from the beginning if mercury is contra-indicated.

8. The treatment of secondary syphilis.

The treatment of secondary syphilis formed the subject of discussion at the Liverpool Medical Institution in March, 1885. (*Med. Times*, 1885, Vol. i., p. 383.) Nothing of a novel character was put forward, but all the speakers were agreed that mercury in some form was the remedy for almost all stages of the disease. There was a very generally expressed feeling that inunction, if left to the patients themselves, was of very doubtful value, and that, to be of use, the ointment should be applied by professional rubbers, and under careful supervision. For internal administration, the well-known mixture containing perchloride of mercury, iodide of potassium, and decoction of bark was warmly recommended. Several speakers praised very highly the treatment of syphilis pursued at Aix-la-Chapelle, where inunction is combined with the internal and external use of the sulphur-waters. Attention was drawn by some ophthalmic surgeons to the permanently incurable nature of syphilitic lesions of the deep structures of the eye, and the necessity of preventing them by early and prolonged treatment of the secondary stage of the disease.

9. The treatment of secondary syphilis at Harrogate.

At a meeting of the Harrogate Medical Society, Jan. 17, 1885 (*Brit. Med. Journ.*, Feb. 7, 1885), Dr. Myrtle read a paper showing how the eruptive disorders of secondary syphilis were successfully dealt with at Harrogate, by combining mercurial treatment, in the same way as was done at Aix-la-Chapelle, with the sulphur-water and baths. As methods of using the drug, Dr. Myrtle advocated inunctions, injections of the albuminate of mercury into the gluteal muscles, and the recently introduced tannate of mercury in doses of one-and-a-half grs. twice a day, especially in cases presenting symptoms of cachexia.

10. The tannate of mercury as a remedy for syphilis.

This new preparation has been somewhat extensively tried. Dr. Lustgarten, its introducer, stated that its main advantage consisted in the fact that it did not cause irritation of the stomach or intestines. This statement has been confirmed by Dr. Dornig, of Laibach (*Wiener Med. Woch.*, No. 27, 1885), who has recently treated eighteen cases with this preparation, and in none of these was there any evidences of intestinal irritation. The usual dose was a grain-and-a-half with sugar of milk, in capsules, three

times a day. In nearly all the cases the results were very satisfactory. The prominent exception was a severe case of gummatous iritis, which yielded to inunction and Zittmann's decoction. Dr. Dornig, commenting on the absence of intestinal troubles in his cases, suggests that differences in this respect, noticed by other observers, were probably due to imperfect preparation of the remedy. He also adds that his cases were treated in hospital, under proper precautions as to diet, &c.

11. The treatment of syphilis by subcutaneous injection of mercurials.

Dr. Oscar Liebreich, of Berlin (*Viertelj. f. Derm. u. Syph.*, iv., 1884, s. 399), continues to advocate the treatment of syphilis by subcutaneous injection of mercurials, and discusses the various preparations available for this purpose, and the objections connected with some of them. He lays down the proposition that the therapeutical effect of any substance absorbed from the stomach is always less than that of the same substance injected subcutaneously, provided that in the latter case the effect is not weakened by chemical alteration and new combinations. On this account the perchloride of mercury used subcutaneously is open to objection; it combines with albumen, which it coagulates. Moreover, it is to some extent decomposed by the steel of the injecting-needle, which after a time becomes clogged up and useless. Absorption, however, certainly takes place, and the effects of the remedy are more rapid and certain than when it is absorbed by the stomach. Its main drawback is the irritant action often produced upon the bowels, as manifested by diarrhœa, sometimes sanguineous in character. Liebreich has endeavoured to discover a preparation which, when injected subcutaneously, would cause as little irritation as possible, and would not form any chemical combination. He first tried the ethyl-chloride of mercury, but this salt is not sufficiently soluble. The amide combinations of the fatty acids with mercury were found to offer the most advantages. Liebreich's solution is prepared by dissolving freshly precipitated pure oxide of mercury in a watery solution of formamide (1 to 100). This preparation has the following advantages:—It gives no precipitate with albumin, no deposit of oxide of mercury is caused in the presence of alkalies, such as sodium hydrate; moreover, it has a feebly alkaline reaction. Corrosive sublimate, on the other hand, is decomposed by sodium hydrate, coagulates albumin, and has an acid reaction. Liebreich says that the formamide of mercury has an extraordinarily favourable effect in the treatment of syphilis, and that this is witnessed after the first injection. Sometimes cases occur for which recourse to

inunction is necessary. Sal ammoniac internally would seem to increase the action of the formamide.

12. The treatment of syphilis by subcutaneous injections of formamide of mercury.

Dr. Carl Kopp has tried the formamide of mercury on a somewhat extensive scale in Dr. Neisser's wards in Breslau (*Viertelj. f. Derm. u. Syph.*, i., 1885, s. 55). The following are the most important results:—Macular eruptions subsided after 17 to 25 injections, but severer forms required from 35 to 45. But little, if any, effect was produced on the primary induration, and a gummatous syphilide remained unaltered after 40 injections. With regard to the local effects of the injections, more or less severe pain was complained of in nearly half the number of cases. As to the therapeutical effect, this was well-marked in the large majority of the slighter cases; but severe papular eruptions and firm infiltrations were but little influenced, and required other treatment. Dr. Kopp thinks that the formamide is too rapidly eliminated from the system, that its effects are consequently of a transient character, and that it is suitable only for mild cases. Relapses are especially prone to occur after its use. Dr. Kopp warmly recommends Lustgarten's tannate of mercury for internal use. (See "Year-Book of Treatment" for 1884, p. 178.)

13. On the treatment of syphilis by means of subcutaneous injections of calomel.

Induced by the statements of Dr. Smirnoff (see "Year-Book of Treatment," 1884, p. 180) Dr. v. Watraszewski, of the St. Lazarus Hospital at Warsaw (*Viertelj. f. Derm. u. Syph.*, iii. and iv., 1884, s. 393) has given a somewhat extended trial to subcutaneous injections of calomel as a method of treating syphilis. He reports 70 cases, all exhibiting marked constitutional symptoms of recent origin. The injections were made into the gluteal region, a decigramme of calomel suspended in thin mucilage being used on each side. This quantity caused symptoms of salivation in five cases, and subsequently it was reduced to one-half, the injections being made at intervals of seven, ten, or fifteen days, and the state of the mouth being carefully examined. The results in all these cases are reported to have been eminently satisfactory, and were often visible a few days after the first injection. Recent exanthemata soon faded and disappeared; macular and papular syphilides were similarly affected, and even pustular eruptions dried up soon after the first injection, and two more sufficed to cause detachment of the crusts and absorption of the infiltration. Also as regards the indurations and glandular swellings and throat and mouth affections, the effect of the three injections appeared to be as great as

that of 25 to 30 inunctions. Four injections sufficed for all cases with the exception of one in which ecthyma was complicated with iritis—another injection was used in this case. Abscesses have been regarded as constituting a serious drawback to this method of treatment, but out of 257 injections only four were followed by this complication. The calomel should be very pure and very finely powdered, and the injections must be made deep in the subcutaneous cellular tissue between the skin and the muscles; the cannula should be large, for otherwise it is apt to become obstructed by the calomel. The pain attendant upon the operation is only slight, after a while it becomes more marked. The patient should keep as quiet as possible for two or three days after each injection.

14. The absorption and effect of various preparations of mercury when applied to the skin.

Professor Nega (*Sep. Abdruck, Berlin. Klin. Woch.*, 1884) has recently made some important experiments on the absorption and effect of various preparations of mercury when used externally in the treatment of syphilis. He tried mercurial plaster, oleate of mercury, mercurial soap, and the double mercurial ointment of the French pharmacopœia. Fifty-four patients were experimented upon, and the absorption was estimated by 400 analyses of the urine, according to Ludwig and Fürbringer's method. Mercurial plaster was tried in six cases. The drug could soon be detected in the urine, and the syphilitic symptoms rapidly abated. The mercurial soap was tried in eight cases, and in most of them the mercury was detected in the urine. The new mercurial ointment, prepared with ethereal tincture of benzoin and containing metallic non-oxidised mercury, was used in nine cases, the analysis of the urine giving positive results in the majority. A similar report is attached to the use of the oleate, which was tried in twenty-seven cases. This preparation, however, created far less irritation than any other. The general results of the experiments were as follows. The effects as regards the urine were decidedly influenced by the quantity of mercury employed, and less was absorbed when the applications were made repeatedly to the same spots. The mercury could sometimes be detected in the urine twenty-four hours after external application, and for some months after a prolonged course, provided that a sufficient quantity had been used. It would appear that non-oxidised mercury, as in mercurial soap, is more freely absorbed than the oxidised preparations, *e.g.* the oleates. These latter are useful for the milder forms of syphilis, because the medicine can thus be continued in small quantities for long periods. The mercurial ointment of the French

pharmacopœia is suitable for severe cases of syphilis, because the mercury is rapidly and copiously absorbed. It has been found to act very satisfactorily. As regards efficacy, the mercurial soap comes between the ointment and the oleate. Its preparation and application in large quantities are attended with difficulty.

15. The value of mercury applied externally as an antisyphilitic agent.

Professor Koebner, of Berlin, discussing the endermic use of mercury (*Deutsche med. Wochenschrift*, No. 47, 1884), lays stress upon its marked effect when thus applied to diffuse and chronic syphilitic indurations, and to secondary and tertiary ulcerations. These effects are due to its caustic or antiseptic action, and are believed by Köbner to furnish the strongest possible support to the views of those who regard this drug as an antidote to the disease. He attributes great importance to the *local* treatment of syphilitic manifestations as an auxiliary to general treatment, pointing out that mercurial ointment applied to patches of eruption causes their disappearance, while others not thus locally treated may remain for some time. He thinks that germs of the poison may survive general treatment, remaining near cicatrices and in the enlarged lymphatic glands, and he advises that the mercury should be systematically applied to such spots in order to destroy the germs as far as possible. In particular the enlarged glands should be thus attacked.

16. The treatment of syphilitic (?) pemphigus of adults.

It is denied by nearly all authorities that pemphigus is ever a syphilitic manifestation in adults. Dr. Schuster, of Aix-la-Chapelle, without discussing the question, reports three cases of pemphigus in persons with syphilitic antecedents, but without any manifest symptoms. (*Viertelj. f. Derm. und Syph.*, ii., 1885, s. 281.) In one case the sulphur-water baths proved useless; baths containing corrosive sublimate set up profuse diarrhœa. In the second case, after trying the baths, &c., the disease yielded to arsenite of soda administered for a long time. In a third case, one of very severe pemphigus in a syphilitic man aged sixty-eight, suffering also from albuminuria, a cure resulted after a nine weeks' course of hot baths (35° or even 36° R.), each bath lasting for half an hour or more. A ten per cent. combination of sulphur with gelatin was applied to large surfaces of the skin after leaving the water, and the irritation and œdema were relieved by subcutaneous injections of pilocarpin. The disappearance of the eruption seemed to be due to the action of the hot water. Ten months afterwards there

had been no return of the complaint. Mercury would appear to be contra-indicated in the treatment of these cases.

17. On the simultaneous employment of calomel and iodide of potassium.

Dr. Baumeister (*Berlin. klin. Woch.*, No. 43, 1884) publishes a caution against the simultaneous employment of calomel locally and iodide of potassium internally in diseases of the eye. He reports a case in which ulceration of the conjunctiva, and, to some extent, of the cornea, was the result of insufflating calomel into the eye of a syphilitic subject who was taking iodide of potassium. The following is the explanation of the effect produced:—Soon after the iodide is administered, the secretion of the lachrymal glands can be shown to contain iodine. If calomel be then applied to the eye, an iodide of mercury and a sodium salt containing both iodine and chlorine are formed, the mercurial salt is dissolved, and acts as a powerful caustic. Iodine cannot be detected in the tears if twenty-four hours have elapsed since its administration, and hence this interval should always be allowed when calomel is to be used in these cases.

18. On the treatment of syphilis in children at the breast.

According to Dr. Link, of Prague (*Viertelj. f. Derm. und Syph.*, iv., 1884, s. 544), Labourdette and Dumesnil were the first to ascertain the amount of iodine contained in the milk when iodide of potassium is given by the mouth. It would appear that about one-fourth is discoverable in this secretion, from forty to forty-five parts in the urine, and the remainder in the fæces. The iodide is said to diminish the quantity of milk and to alter the relative proportions of its constituents. In the treatment of syphilitic children Dr. Link obtained very satisfactory results from the use of iodised milk. In one case, which he reports in full, a child, ten weeks old, presented many symptoms of hereditary syphilis in an aggravated form. The skin was covered with papular and vesicular eruptions, the nasal mucous membrane was ulcerated, and the nostrils obstructed, the lips and tongue fissured, &c. By way of treatment two grammes of iodide of potassium were administered daily to the mother; the crusts were removed from the child's lips by means of warm applications so as to enable it to take the breast. A decided improvement was manifest in ten days; the nasal catarrh had subsided, the ulcers had healed, the eruptions were fading away. A still further improvement was noticed on the twenty-second day, and ten days later the skin-affections had disappeared. Some time afterwards the child again came under notice for phlyctenular conjunctivitis, but there was no

recurrence of the other symptoms. In this and three other cases, while the treatment was being carried out, no diminution was observable in the quantity of milk. In the above case the mother had been treated for a soft sore in the eighth month of her pregnancy, but the father, some years before, had undergone a course of treatment for syphilis.

19. The various methods of treating congenital syphilis.

Prof. Monti (*Archiv für Kinderheilkunde*, Bd. iv., Heft i., 1884—85) states that the method by inunction is not suitable for children at the breast, as it is apt to produce marked anæmia, and to check the increase of the bodily weight. In the case of older children the oleate may be used with advantage. For infants calomel internally is the best method, and its use should be continued till the symptoms subside, and repeated should relapses occur. It is often desirable to give it in courses, extending its administration over two years. The lactate of iron may be combined with it in anæmic cases, and it may be followed by a course of the iodide of iron. Subcutaneous injections of the perchloride may be tried for older children if the calomel be found to affect the bowels very severely. The mercurial albuminate and peptone are also serviceable for injections. When the bones are much affected the iodide of mercury is especially useful. The tannate of mercury was tried by Professor Monti in twelve cases, and was very well borne and very efficacious. The saccharated iodide of iron in the form of a powder he considers to be the best preparation whenever it is desired to give iodine. It may be given for months without causing iodism.

20. Local antiparasitic treatment of gonorrhœa.

Admitting the parasitical origin of gonorrhœa, M. Diday, of Lyons (*Annales de Dermatologie et de Syphiligraphie*, Feb., 1885, p. 121), draws attention to two points in the treatment, viz., the parasite itself and the structure of the urethra. Very dilute solutions of corrosive sublimate (1 : 20,000) will destroy the microbe. To destroy the colonies of the micrococcus, which are continuously reproduced, it is necessary that they should be kept in contact with the antiseptic for a considerable time. In order to reach and destroy the microbe the sublimate must be applied to the whole of the affected surface, and the urethral canal must be distended to the full extent. When the solution is injected, as is best done by the aid of an *irrigateur*, after the introduction of the cannula, the glans penis should be tightly pressed by the thumb and finger, so that the injection may distend the canal. Stronger solutions may be used if the weaker ones are insufficient.

M. Aubert passes into the urethra a piece of caoutchouc tube, about two inches in length, to which the syringe is fitted. The fluid finds its way back between the tube and the urethra, and thus thoroughly washes the surface of the latter.

21. Decoction of lemons as an injection for gonorrhœa.

Dr. Mannino, of Palermo (*Annales de Dermatologie et de Syphiligraphie*, April, 1885, p. 255), recommends decoction of fresh lemons as an injection for gonorrhœa. Three lemons are to be cut into small pieces, and heated with 300 grammes of water until the whole is reduced to 100 grammes. The fluid is then to be expressed, and used as an injection three or four times a day. It is stated that the decoction will destroy the parasite, that it should be used in the acute stage, and that the disease will then subside in a few days. The decoction should not be kept for more than two days. An injection containing salicylic and citric acids has also been found very useful. The formula is as follows: citric acid 1·5 parts, salicylic acid ·05, and water 250 parts. To be used twice a day. The salicylic acid is added to prevent decomposition. This injection is said to be more suitable for the later stages of gonorrhœa.

During the twelve months covered by this *Year-Book*, an unusually large number of articles on subjects connected with syphilis have appeared in medical periodicals. It cannot be said that any striking addition has been made to our list of remedies for this disease, or that our knowledge of its pathology has been decidedly advanced. Lustgarten's discovery of micro-organisms, alleged to be distinct and peculiar to syphilitic infiltration, still awaits confirmation. No complete treatises on syphilis have appeared during the year. Professor Ed. Lang, of Innsbruck, is publishing a work (*Vorlesungen über Pathologie und Therapie der Syphilis*) which bids fair to make its mark; but the third portion, which will contain the chapters on treatment, is still wanting. The publication of the long-promised second portion of Professor Kaposi's book may be expected during the next few months. With regard to current views as to the general treatment of syphilis, the diminishing opposition to the use of mercury is the most prominent feature to be noticed. The recently introduced preparation, the tannate of mercury, does not appear to offer any special advantages, and the statements made as to its freedom from drawbacks are at least conflicting. The necessity for a *prolonged* course of mercury as an *effectual* antidote to the poison of syphilis is obtaining increased recognition, and if this view be

well-founded, it is obvious that hypodermic injections are unsuited for the purpose to be attained. Dr. Kopp's experiments with the formamide are conclusive as to its inefficacy in all but very mild cases. The old way of administering mercury, viz., by the mouth, is generally the most efficacious and convenient method of using the drug, all well-known precautions being of course taken. The drawbacks and inconveniences connected with inunction, doubtless very efficacious when *properly* practised, are such as to render that method unsuitable for general adoption.

THE DISEASES OF WOMEN.

BY JOHN WILLIAMS, M.D., F.R.C.P.,

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1. Amenorrhœa.

Dr. Thomas Sanctuary (*Lancet*, Jan. 10, 1885) publishes nineteen cases of amenorrhœa, twelve of which were treated by the administration of apiol, and eight (apiol and permanganate of potash having been given to one patient) by permanganate of potash. Of the twelve treated by apiol three were married and mothers, and had missed from two to three periods. The catamenia appeared in each case in from two to six days after the administration of from two to five capsules of apiol. It is said that there was no suspicion of pregnancy in any one of the three.

Apiol was given to nine single girls. In one menstruation did not follow its administration; in the remaining eight it appeared in from two to five days from the commencement of the use of the drug, and after taking amounts varying from one to five capsules. The eight to whom permanganate of potash was given were single girls. In these the amenorrhœa had lasted for periods varying from two to seven months. One of the patients, who had missed five periods, appears to have been pregnant; but abortion did not follow the taking of 24 grains of the salt. In one case both apiol and the permanganate failed to cause the appearance of the catamenia. In the remaining six the flow appeared after a period, varying from two to five days from the time the use of the salt was commenced, and after from four to ten grains of it had been taken.

Dr. P. Maury Deas (*British Medical Journal*, April 18, 1885) has given permanganate of potash in amenorrhœa with insanity. He gave it in the form of a pill, containing one grain of the salt, three times a day, and arrived at the following conclusions:—

(1) Permanganate of potash is a useful and safe emmenagogue, and free from the disadvantages which attend some remedies of this class.

(2) Its use may be continued for months without bad effects, and success need not be despaired of even after many months.

(3) Even when it fails as an emmenagogue, it acts beneficially as a general and nervine tonic.

Emmenagogues should be administered for amenorrhœa with very great caution, and only after pregnancy has been excluded. To married women they should be rarely administered, and never until a sufficient time has elapsed to eliminate the presence of pregnancy.

Permanganate of potash and apiol may have an influence upon the uterus, but cases of amenorrhœa, in which the administration of these drugs for a few days is followed by hæmorrhage, do not prove them to be emmenagogues. The changes which are known to take place in the uterus during menstruation preclude the possibility of such action on the part of any drug in so short a time.

2. Dysmenorrhœa.

Dr. Goodell (*American Journal of Obstetrics*, 1884, p. 1,179) recommends rapid dilatation of the uterine canal for this disorder of menstruation. He has had several cases in which inflammation, and two in which death followed Sims's operation, and consequently he has given up that method as being too dangerous. He uses Ellinger's dilators in two sizes. The blades are made no longer than two inches, and the larger of the instruments opens to an outside width of one and a half inches. Goodell writes, "In a case of dysmenorrhœa from anteflexion or from stenosis my mode of performing the operation of rapid dilatation is as follows: the patient is thoroughly anæsthetised, and a suppository containing one grain of the aqueous extract of opium is slipped into the rectum. She is then placed on her back and drawn to the edge of the bed, the knees being supported by the nurse. The light must be good, so that the operator may clearly see what he is about. By the aid of a strong tenaculum, applied through my bivalve speculum, the cervix is steadied, and the smaller dilator is introduced as far as it will go. Upon gently stretching open that portion of the canal which it occupies, the stricture above so yields that when the instrument is closed it can be made to pass up higher. Thus by repetition of this manœuvre, little by little, in a few minutes' time a cervical canal is tunnelled out, which before would not admit the finest probe. Should the os externum be a mere pinhole, or be too small to admit the beak of the dilator, it is enlarged by the closed blades of a straight pair of forceps, which are introduced with a boring motion. As soon as the cavity of the womb is gained the handles are brought together. The small dilator being now withdrawn, the larger one is introduced, and the handles are then slowly screwed together. If the

flexion be very marked, this instrument after being withdrawn should be re-introduced with its curve reversed to that of the flexion, and the final dilatation then made. But in doing this the operator must take good care not to rotate the womb on its axis, and not to mistake the twist for a reversal of the flexion. The ether is now withheld, and the dilator kept *in situ* until the patient begins to flinch, when the instrument is closed and removed." The best time for dilatation is midway between two periods. Pain is met by suppositories of opium and poultices to the abdomen. Dr. Goodell has seen but slight pelvic disturbance from the operation, and this has always been readily controlled, and has not caused alarm. In the majority of cases the canal is dilated to $1\frac{1}{4}$ in. Tearing of the cervix has happened in two cases, and free hæmorrhage in one. After forcible dilatation the cervical canal rarely returns to its previously angular or contracted condition. The author had dilated two cases twice, and would have liked to have done so in several others had the women permitted it. He had had recourse to the operation not only for dysmenorrhœa, but also for exploring the cavity of the uterus, the introduction of sponge tents, the use of the curette, and irrigation of the uterine cavity. For dysmenorrhœa he has operated in this manner in 80 unmarried, and 88 married women. Of the unmarried, 18 were not heard of after operation; of the remaining 62, 38 were cured, 17 more or less improved, and 7 not improved: 5 of the 7 had the ovaries which were diseased subsequently removed. Of the 88 married women who were subjected to the operation, 53 have been traced; of these, 39 were cured, 10 improved, and 4 not improved. Pregnancy followed the operation in several cases. Besides the above 168 cases, Dr. Goodell had had many cases in which he dilated the cervical canal to a less degree without an anæsthetic. The author, however, does not deem such slight operations worthy of record.

I cannot agree with the author concerning the unworthiness of the slighter operations, for upon the results following these depends the judgment to be pronounced of the severer. Dysmenorrhœa does not demand for its cure operations proportioned to its severity; and it may be fairly asked, if similar good results followed the slighter operations as are said to have followed the severe, why have recourse to the latter? It is well known that the passage of bougies is frequently followed by painless menstruation and conception, but how the operation brings about the result is not known. Underlying the practice of forcible dilatation, as exhibited in Dr. Goodell's paper, are several theories, the truth of

which, to say the least, has not been established—(1) That so-called cervical stenosis gives rise to dysmenorrhœa and sterility; (2) that flexion gives rise to angulation of the uterine canal and stenosis. The evidence for these views consists of simple theory; inferences from imperfect clinical observation, which clinical observation on a large scale and actual observation have disproved. It has been abundantly shown that stenosis of the cervix does not necessarily cause dysmenorrhœa or sterility, and that flexion causes neither angulation of the canal nor stenosis, neither dysmenorrhœa nor sterility.

Very little real evidence is anywhere forthcoming as to the value of various operative methods of treating dysmenorrhœa. It is not known in what proportion, and what kind of cases, the passage of bougies is sufficient; it is not known whether forcible dilatation produces better results than the passage of bougies; and it is not known whether incision of the cervix, stem pessaries, and other means can effect a cure in cases where the simpler treatment fails. Accurate statistics on all these points are wanting.

3. Gonorrhœa.

Sänger (*Ueber Gonorrhœische Erkrankungen der Uterus-adnexe und deren operative Behandlung: Centralblatt für Gynækologie*, 1884, p. 650) is of opinion that gonorrhœa furnishes a far higher percentage of severe chronic diseases of the pelvic organs than puerperal fever, and a far higher percentage of cases of severe and incurable disease than syphilis. The frequency of gonorrhœal diseases is so great that they form rather more than one-ninth of all gynæcological cases.

With a view to limit or prevent the infection of women, Sänger recommends that marriage be forbidden so long as any trace of disease remains; and he mentions a case in which prostatitis was present ten years after the infection took place. The wife became diseased and sterile. Special prophylaxis consists in the active treatment of infected girls.

For the gonorrhœa of the urinary organs daily washing out with a solution of corrosive sublimate (1 in 1,000) is recommended. This is useful even in gonorrhœal catarrh of the vagina and uterus. After this has been practised some time, caustic in solution, with iodolcohol or dilute nitric acid may be injected into the uterine cavity. For the diseases of the appendages, Sänger recommends removal. The tubes should be entirely removed, as well as the ovaries. The objection that the disease may extend from the mucous membrane of the uterus is not valid. In conclusion, Sänger relates four cases in which he removed the ovaries and tubes. In one case a complete cure was effected. In one a

perimetric effusion as large as a hen's egg followed, but it became absorbed completely. In one perimetric exudation took place, but absorption appears to be going on. In one great exudation, a bad result. The results obtained by Säger are in the highest degree disappointing. Severe attacks of perimetritis after operation in three cases out of four, remaining permanent in one, doubtfully so in a second, absorbed in a third, and a complete cure in one, promise but little. We have seen one case in which the operation was performed two years ago. Perimetritis followed, and the exudation remains, and the patient is no better.

4. Dysmenorrhœa and sterility.

Decoux (*Centralblatt f. Gynækologie*, 1885, p. 427) states that sterility is frequently present in women who suffer from dysmenorrhœa, and that if the latter be cured pregnancy not rarely follows. He gives an illustrative case. He administered phosphate of zinc, morning and evening, to a woman twenty-five years of age, who had been married for five years and was sterile, and the dysmenorrhœa, for which she had been treated in manifold ways in vain, was cured. The drug was taken for four weeks longer, and she became pregnant, and was delivered at the full time. Eleven months after her confinement the menses appeared again, but with the former pains; the pains ceased after taking phosphate of zinc, and after three months she became pregnant again.

5. Tears of the perinæum.

Keller (*Archiv f. Gynæk.*, 1885, p. 283) in the obstetric department in Berne has used for tears of the vaginal orifice nothing but a continuous catgut suture since January, 1884. Previous to that date the interrupted was the suture employed, and silk the material. He states that the results obtained from the continuous catgut are better and neater than those from the interrupted silk suture.

The vagina is in the first place well washed with a solution (1 in 2,000) of corrosive sublimate. The suture is begun at the upper end of the tear in the vagina, it is carried deeply under the torn tissue, and tied at each end. Occasionally good apposition of parts was not obtained, and then one or two interrupted sutures were introduced, or the irregular and shreddy edges of the wound were trimmed with scissors. Antiseptic precautions were used throughout. The wound was covered with iodoform collodion. The sutures disappeared, and the wound was completely healed by the seventh day. The cicatrix thus obtained is linear, and never like a cock's comb. The suture should be drawn evenly tight throughout. This suture has been used in forty-one cases; and perfect cure was obtained in forty. In the remaining one the upper part of the wound did not unite.

6. Prolapsus uteri.

Dr. Alexander (*Med. Chron.*, 1885, p. 369) gives the result of shortening the round ligaments for prolapsus uteri in two cases. The first was a charwoman; the cervix was at the vaginal orifice. She was operated upon in May, 1882. She was examined July, 1885. The uterus was found "well up, the cervix almost beyond the reach of the finger. The body of the uterus was in a slightly anteverted position. The vagina was very wide, its walls disposed in numerous folds, that covered both the vesical and rectal surfaces. The patient has become much stouter, and during the interval has lived a laborious and irregular life, without any thought of the weakness of her breech."

The second case was one of complete prolapsus with cystocele. The operation was performed two years and two months before the following result was noted in May, 1885:—

"The uterus was in excellent position. Some slight rectocele and cystocele still existed." After testing the position of the uterus in various ways by stooping, straining, and going up-stairs, it was found that there was no tendency to prolapsus of the uterus.

Dr. Alexander states that he has repeatedly seen most of the patients he has operated upon, and found them quite well; but he gives no details. In one case only has failure occurred, and that was one in which immediate union occurred. The time has not yet come to form an opinion of the value and permanency of the results obtained by shortening the round ligaments in cases of prolapsus, for the time which has elapsed since the operation in most cases is insufficient. The two cases reported by Dr. Alexander are meanwhile very encouraging.

7. Early ovariectomy.

Knowsley Thornton (*Centralblatt für Gynäkologie*, 1884, p. 596) is opposed to tapping ovarian cysts, because the chances of cure are extremely slight, while there is danger of infecting the peritoneum by the escape through the opening of small cells of papillomata. Keith, who has tapped frequently, complains that so many of those cured after ovariectomy die of malignant new formations. Thornton, some years ago, removed a cyst whose inner surface was covered with papillomata; none of the contents escaped into the peritoneal cavity, but the patient died some months later of cancer of the peritoneum, which had originated not in the incision, but in the scar of a previous tapping. Of the 423 cases in which the author had performed ovariectomy, forty died, and twelve of these deaths he ascribes to a previous tapping. He is almost at one with Stilling in regarding tapping as a crime. The cases in which it should be done are exceptional and very few. But to abstain from

tapping is not enough. Early removal should be resorted to, lest the dangers associated with ovarian cysts be developed. The tumour should not, however be removed while it is in the true pelvis, because the operation is then more difficult, and the cicatrix in the abdominal wall is not so firm as it is after the wall has been stretched, but it should be removed as soon as the tumour has risen out of the pelvis and stretched the abdominal walls. Longer delay exposes the patient to various dangers, such as malignancy, twisting of the pedicle, and adhesions.

8. Spaying for uterine fibroids.

Wiedow (*Archiv f. Gynækol.*, Bd. i., 1885, p. 299), in a paper read before the Medical Congress at Copenhagen, stated that he had collected 149 cases in which this operation had been performed. Of these fifteen, or ten per cent., died in consequence of the operation. Of those which recovered, forty-nine were under observation for one year or longer; in thirty-six of these the menopause was brought about together with diminution in the size of the tumour; in eight others the menopause was established, but the effect on the tumour was not known; in one the tumour decreased in size, but information about the hæmorrhage was wanting; in three there was diminution in the size of the tumour, but slight hæmorrhage occurred at regular or irregular intervals; and in one there was slight hæmorrhage three months after the operation, but the state of the tumour was not known. Wiedow has also examined if the result of operation varies according to the seat and size of the tumour. He found that in two cases in which the tumour was seated in the cervix all the symptoms disappeared after castration, and in one the tumour also disappeared. In ten out of twelve cases in which the tumour reached the umbilicus or higher, the menopause was established and a diminution in the size of the tumour brought about; in one, slight irregular hæmorrhage followed with little decrease in the size of the tumour; and in one, after cessation of the bleeding for several months, regular hæmorrhage set in with diminution in the size of the tumour. Wiedow concludes, therefore, that the size of a fibroid does not contra-indicate spaying. He further maintains that the above facts are sufficient to demonstrate the erroneous character of the theory that the removal of the tubes is the important factor in the operation; for in many cases the tubes were left, and yet the menopause was established.

The cases collected in this paper show that spaying has an important influence upon fibroid tumours, for the menopause appears to have been established in forty-four at least of the forty-nine cases observed for twelve months. On the other hand,

there were fifteen deaths in the 149 cases operated upon, and before undertaking the operation, this fact, together with the rarity of deaths from fibroids, should be duly considered.

9. The modern treatment of uterine myoma.

Mr. Lawson Tait (*British Medical Journal*, Aug., 1885) publishes a list of fifty-eight cases, in which he had removed the uterine appendages for myoma, since January, 1884, without a single death. He expresses his belief that the real mortality after the operation in experienced hands is not more than one per cent. He then gives very brief notes of the first fifty cases, which recovered after the operation had been performed by him, and makes the following observations :—

“Here then we have a series of cases, the earliest of which is thirteen years old, and the latest two and a half. Of the fifty cases we have failure in only two instances, the details of one of which I have already published. It was a case of cancer of the body of the uterus, which I mistook for myoma which became cancerous after the operation. Neither of these alternative suppositions, in the least, can now form an argument against my operation; mistaking malignant for non-malignant tumours is constantly occurring in every department of surgery, and I cannot expect to be free from it. In the second case, menstruation has not been arrested, and the tumour has gone on growing.

Two of the patients have been admitted to asylums since the operation; but in one case, the insanity was pretty evident before the removal of the uterine appendages, and in the other it showed itself almost as soon as she was out of the anæsthetic, so that the indirect effects of the operation can hardly be credited with this unsatisfactory result; it is merely the insanity after operation, which is known to occur after almost every surgical proceeding which is undertaken.”

On examining the notes of these fifty cases furnished by the author, we find the following :—

Thirty-six of the patients were forty years of age or more; eighteen were forty-five or more; and three were fifty or more. The cases were observed after the operation for periods varying from six months to ten years. Three of the patients died in the course of a few months after the operation; one from cancer of the uterus, one from cancer of the omentum, and one suddenly; two are in asylums; one can walk a little, and occasionally go to church; one is fairly comfortable, while life was a burden to her before the operation; in one the tumour has continued to grow rapidly, and one could not be traced.

The menopause was established at once in nineteen ; the catamenia returned regularly in two ; and several times or occasionally in eight.

The tumour "entirely," almost, or "practically" disappeared in twelve ; became smaller in thirteen, remained stationary in one, and continued to grow rapidly in one. Further information respecting menstruation and the state of the tumour subsequent to the operation is not given.

The author condemns enucleation and hysterectomy generally, but adds that there are some "cases in which the performance of the operation of removal of the uterine appendages does not arrest the growth of the tumour, and these cases must subsequently demand the greater operation. Other cases will also demand it when the tumour has grown after the menopause ; in such, of course, removal of the appendages being altogether out of the question. But what I contend for is this, that if the removal of the appendages were performed on patients early in the history of these cases, as it ought to be, very few would arrive at the necessity for the operation of hysterectomy."

There are two important factors which contribute largely to keep down the mortality after the removal of the ovaries. The first is experience in operating ; the second a near approach to sound general health in the patient. The first is generally admitted, but the second is not. The baneful influence of the idea that a diseased is more tolerant of operative interference than a healthy peritoneum is still too general. The fact that the mortality after the operation of spaying in animals is nil has been, and is still, lost sight of. A breeder of swine would not trust his young sows in the hands of the gelder did they run any appreciable risk ; and the gelder himself would be surprised and professionally ruined did death follow in his steps. These two factors, skill and early operation, doubtless contribute largely towards Mr. Tait's large percentage of recoveries, for he strongly advocates early operation.

10. The treatment of fibroma of the uterus by means of laparotomy.

Koeberle (*Centralblatt für Gynäkologie*, 1884, p. 564) states that the indications for laparotomy are dependent upon (1) excessive and prolonged hæmorrhage, and a rapid and steady growth of the tumour ; (2) upon the more or less advanced age of the patient ; the further from the menopause the patient is the more will the operation be indicated ; (3) upon the position of the tumour ; tumours situated in the lower section of the uterus or in the broad ligaments present always a very bad prognosis for operative

treatment ; (4) upon special circumstances ; the tumour may make life intolerable to the patient.

The operation is contra-indicated when extensive vascular adhesions are present between the tumour and the anterior abdominal wall ; when the tumour is wedged in the true pelvis ; when ascites is present, which tends to increase and reappear rapidly after removal ; when accompanying incurable diseases are present, or such as endanger the progress of recovery. As to the method of operating, Koeberle thinks that the incision should always be made in the middle line. When the tumour is pedunculated the peduncle should be tied in more or fewer parts and returned. The comparatively small encapsuled tumours should be enucleated and the wound stitched. This method does not assure against bleeding, and should be adopted in exceptional cases only. Large tumours can be removed only by total or partial extirpation of the uterus. These cases fall into two classes, according as the tumour reaches down only as far as the inner orifice, and does not project into the broad ligament, or has grown into the cervix, or has become subserous. The first kind can be operated upon in various ways ; Koeberle usually isolates the uterus on each side by means of a row of ligatures, then he applies two metallic ligatures around the cervix, tightens them with *serre-nœuds*, separates the tumour, and fixes the stump in the wound by means of a transfixing pin. The mortality is about the same as that following ovariectomy by the extraperitoneal method—five to ten per cent. When the tumour is situated in the broad ligament the operation is almost always fatal. In such cases Battey's operation is preferable ; is often difficult, however, often useless, as, for instance, in cases in which occlusion of the intestine calls for the operation. Schroeder's method, seductive as it appears, is too difficult and dangerous, and is permissible in exceptional cases only. Koeberle never uses sponges, but makes the peritoneal toilet with napkins. In closing the wound he does not include the peritoneum within the stitches. The wound is covered with charpie, impregnated with iodoform ; the pedicle and wound are lightly powdered with iodoform. Koeberle uses no other antiseptic.

11. The toilette of the peritoneum.

Baumgartner (*Ueber Peritonealtoilette, Centralblatt für Gynäkologie*, 1885, p. 685), in discussing this subject, states that it is now generally recommended to cleanse the peritoneal cavity thoroughly of blood, cyst contents, &c., after operation. This is usually done with sponges. A series of simple cases will not require the toilette of the peritoneal cavity generally ; in many cases,

however, wiping with sponges on holders will not prove sufficient to remove completely from the deepest parts blood, cyst contents, and exudations from peritoneal inflammation. Baumgartner would not overburden the absorbing power of the peritoneum, and advises in cases in which the peritoneal toilette is necessary to wash out the whole of the peritoneal cavity. After the tumour has been removed, and the pedicle has been secured, the author introduces a glass tube, about half a cm. in diameter, which is connected with an irrigator containing ten litres of an antiseptic fluid, and placed at a height to give pressure of one mètre. The tube is introduced in different directions between the coils of intestine and into the pouch of Douglas, the intestines being kept back with the hand. In this manner all dirt and uncleanness is washed out of the pelvis and the rest of the peritoneal surface. The fluid is allowed to flow until it returns clear. The tube is then withdrawn, and the fluid removed by means of sponges. He has never seen harm result from this practice.

12. Spaying as a remedy for nervous and psychical affections.

Hegar (*Centralblatt für Gynækologie*, 1884, No. 38, s. 593), in discussing this subject before the International Medical Congress in Copenhagen, stated that two objects were to be gained by means of spaying as a means of cure, namely, the removal of a degenerated organ, and the anticipation of the climacteric. The first object called for no explanation. Of the artificially induced climacteric little, however, was known. It was known that menstruation ceases, and the uterus becomes atrophied, but of the effects of spaying on the body as a whole so little was known that no indication for spaying was found in it. From this it follows that such an indication cannot be formulated without demonstrable anatomical change in the sexual organs. Given, however, a case of neurosis with suffering referable to the sexual organs, the question arises whether the neurosis depends upon the condition of the sexual organs. In answering this question great weight had always been laid on the seat of the neurosis, and especially on the so-called lumbo-spinal symptoms (sacral pains, dysæsthesia in the belly wall, in the outer genital canal and urinary organs, in the rectum, hips, thighs, &c.) which have been regarded as dependent on conditions of the sexual organs. The lumbar spine, however, can be affected from other parts of the central nervous system, and from the peripheral nervous system, and then a sexual malady is brought about in a secondary manner. At all events, very marked lumbo-spinal symptoms generally point to an affection of the genital organs; so does

the aura so often proceeding from the sexual organs, or the progress of symptoms in an upward direction in the course of disease to more distant segments of the nervous system. The relation in point of time between the appearance of the neurosis and the affection of the sexual organs should also be taken into consideration. On the other hand, the intensity of the nervous affection frequently is not proportionate to the amount of the pathological change in the genital organs. How the latter calls forth the neurosis can but rarely be accurately established; still this can, in some cases, be done; for example, when the neurosis disappears after straightening the flexed uterus. If a causal connection has been established between the neurosis and the disease of the sexual organs, it does not follow that the former can be cured by spaying. Should the ovary or tube be the seat of disease, oöphorectomy might be expected to effect a cure with greater probability than when the uterus or broad ligaments are affected. The question then is, will the malady be favourably influenced by the cessation of ovulation? The indications for spaying for neurosis can be stated thus:—Spaying is indicated for a neurosis which depends on a pathological change of the sexual organs, when the neurosis cannot be cured or materially improved by milder measures; and if the neurosis endangers the life or the mental health of the patient, or prevents her following her occupation or enjoyment of life. The cause of the neurosis must be completely removed, or, at least, a factor in its causation, without the removal of which no cure or improvement is to be expected. Hegar has collected the results obtained by him after spaying for nervous affections, but has included those only which have been under observation for a sufficient time. The results, he states, are quite favourable; failures are comparatively rare. Most frequently the results are impaired perhaps through circumscribed inflammations, which were present before the operation, or were induced by it. The patients operated upon should be watched for a long time; for not only has the long-continued neurosis produced changes, which disappear only in the course of a certain time, but the disturbances associated with the climacteric appear often with special facility in the segment of the nervous system already affected. Finally, herniæ, which are not very rare, should be mentioned among the causes of failure.

13. Spaying for neuroses.

Dr. Schmalfuss (*Zur Castration bei Neurosen. Archiv. für Gynäkologie*, Bd 22, 1885, s. 1.) contributes material towards deciding the questions, what influence spaying has on neuroses which are

associated with disease of the generative organs ; what are the circumstances in which an improvement or a cure can be expected, and what are the conditions which frustrate the result? He publishes notes of 32 cases in which the operation of spaying was performed. In almost all the cases the nervous troubles were not the only or even the chief factor indicating the operation, for there were present in addition generally inflammations, disturbances of menstruation, etc. All the cases had been under treatment for years before recourse was had to spaying. The tubes, as well as the ovaries, were removed in every case with one exception.

The cases are divided into three groups. The first group consists of those cases which presented symptoms referable to the lumbar portion of the cord—the lumbar and sacral plexus, such as sacro-iliac pains, dragging pain in abdomen, weight in pelvis, anæsthesia and hyperæsthesia of the vulva and vagina, vesical and rectal troubles. Some of these presented also neuralgic symptoms in the breasts, shoulders, and head, with palpitation. Ten cases belong to this group ; 8 were cured, and 2 were not cured.

The members forming the second group had, in addition to the above, pronounced symptoms in various nerves and regions of the body, without presenting a very marked neuropathic condition. They suffered from cardialgia, weight in the epigastrium, distension, eructations, vomiting, globus. To this group belong 8 cases ; 6 were cured, and 2 relieved.

All the members of the third group presented widespread nervous symptoms, and a general neuropathic state ; sometimes sharply pronounced, sometimes vague pains in almost any part of the body, vasomotor disturbances, vicarious menstruation, laryngeal, gastric, and intestinal disturbances of various kinds, cramps and epileptiform seizures. Fourteen cases belong to this group ; 10 were cured, and 4 relieved.

Thus Schmalfuss finds, out of 32 cases operated upon, that 24 were cured, 6 were relieved, and 2 were not cured. He ascribes the failures to a variety of causes, such as mistaken indication for the operation, attacks of inflammation following the operation, circumstances unconnected with the operation, such as deficient care and want of rest on the part of the patient after she had left the hospital, and new disease showing itself. Of these inflammations are met with most frequently. They are generally seated around the pedicle, and give rise to new pathological centres of irritation. Besides circumscribed inflammations in the pelvis, herniæ may contribute materially towards prolonging and maintaining the nervous symptoms.

Such conditions, however, occurring after operation, do not frustrate or even detract from the results in every case. A large swelling formed around the pedicle in 4 cases, without giving rise to symptoms of any importance. Anatomical changes bearing the same name have often a very different significance. The general state can differ so much in different patients, that it is not to be wondered at that similar conditions give rise to symptoms in one case and to none in another. In two cases the indication was not well based ; in one of these the operation could not be completed, and in the other the heart was the primary source of the mischief.

The influence on menstruation was as follows : the menopause was established forthwith in 17 of the 32 cases ; in 12 bleeding returned for a longer or shorter period, sometimes at tolerably regular intervals, sometimes quite irregularly ; in 3 hæmorrhage is still present. In all the cases in which bleeding continued inflammatory exudation was present ; in 18 of the 32 menstrual molimen was present ; for five years in one patient ; in another for more than four years. It is also noteworthy that by reason of the symptoms which accompany the natural climacteric, and which set in severely in nervous persons, the good effects of the operation may be postponed for a long time.

The cases reported by the author of the above paper are cases operated upon by Hegar.

To establish an operation of such doubtful repute as spaying is for neuroses demands many cases, and those fully and completely recorded. It is not sufficient to say that the cases had been subjected to treatment for a long time ; but a full history of the patient before and after the operation is needed. Nor is it sufficient to report selected cases, but all cases in which the operation is done should be published. Moreover, before the place of spaying for neuroses can be finally settled, the histories of patients who suffer from such affections, but not made the subjects of spaying, should be known ; many such patients are cured ; what the proportion of cures to failures is there are no statistics to show. It is not stated by Dr. Schmalfuss whether the 32 cases reported in his paper are selected cases, or whether they are all the cases operated upon by Hegar, between the dates of the earliest and latest operations reported.

The states of the patients at the time of the operation are briefly given, but their previous histories are not furnished. It is stated that all the cases had been under treatment for years, but some of them had only suffered severely for a few months, and some had been delivered at no long date previous to the operation.

The data given in the notes of the cases are insufficient to enable us to form a definite notion of the patients. These deficiencies in the paper make it to possess far less value than it would have had, had the author furnished such details as I have mentioned. Moreover, when we come to examine the cases, we find that the author has taken a far too favourable view of the results obtained, and has ascribed to the operation consequences which may with much reason be attributed to lapse of time and other circumstances ; for in a considerable number of the cases, even of those which ultimately recovered, certain troublesome symptom or symptoms remained for a longer or shorter time. In others again, severe symptoms lasted for years after the operation ; while some were in no way improved. Thus of the cases forming the first group we find that the first was better for about one year, and that then severe labour-like pains set in periodically. In six years after the operation she was well, with the exception that she suffered from dyspareunia. In the second case the uterus was curetted and cauterised for hæmorrhages ; after this she suffered from monthly hæmorrhages for ten months. Since this time again, although greatly improved, she is still the subject of frequent headaches, bearing-down, and frequent micturition.

Cases three and four were not improved.

The fifth case was only twenty-two years of age ; she had suffered from dysmenorrhœa from puberty, and the pains had become continuous for three months. She had ovaritis and was cured.

The sixth case was found cured with the exception of sleeplessness and periodical headaches four and a half years after the operation, but no account of her condition is given during the interval. The seventh was much better, but not strong three years after. She had pains in sacrum and pelvis after work, but these were not so bad as they were before the operation. The eighth menstruated twice after the operation, and had frequent attacks of epistaxis for one year. Two years later she was well.

Of the second group, which consists of cases eleven to eighteen, the eleventh patient had severe cramp-like pains in the abdomen every four weeks for one year, and still has them three or four times a year, with palpitation, giddiness, and weariness ; but she is much stronger and better.

The twelfth was twenty-six years of age, and had been delivered of her only child a year before she was operated upon. She had continuous pains in the left side, sacrum, and hip, and could not work. She had slight sacral pains every four to six

weeks for two years after the operation. At the end of two and a half years she was well with the exception of headaches.

Cases 13, 14, and 15 were cured. No. 16 became much stronger, but she had every four weeks, for some years, attacks of chilliness, exhaustion, and nervousness, lasting about two days each time, and frequent headache. Then she had ulcer of the stomach, and a violent attack of uterine hæmorrhage, with sacral pain after a fall.

In case 17, menstruation ceased for a few months, then returned at intervals of four to five weeks, with pain, nausea, and vomiting. This continued for a year. Then after severe abdominal pain and vomiting pus escaped from the vagina, and pus and blood from the rectum. After this she seems to have become much better.

Case 18 was 25 years of age, and a multipara. She was well for about one year after the operation, then at intervals of a few months attacks of the following kind set in: Violent pain in the neighbourhood of the cicatrix, fever, nausea, vomiting of food, wasting; each attack lasted about fourteen days, and recovery took place in about a month. During the interval the patient was strong and well.

Of the third group, case 19, aged 20, was cured. Case 20 has a severe headache, with a somewhat sharp flow every four weeks, which keeps her in bed for two days. These attacks end with weight and swelling in the epigastrium, then follow nausea and heartburn, and the attack is over.

In case 21, aged 25, menstruation continued for a few months; then slight hæmorrhages appeared at intervals of twelve to thirty-four days, lasting two to ten days, accompanied by burning in sacrum and lower abdomen, and vomiting, hæmatemesis several times, with headache and giddiness.

Case 22 was cured.

In case 23 slight pains, together with severe sacral pain, congestion of the head, and oppression at the chest, set in every month. The general health is good.

Case 24 was cured.

Case 25 was better. Before the operation she had convulsive attacks at the periods, and she had them four times in the year for three years afterwards; in the fourth year only twice, less severe it is said than before the operation, but they lasted on each occasion for about two hours. She had also palpitation, headache, giddiness, epistaxis, and blood spitting.

In the 26th case many complaints were present every month for the first two years, but they have become better. For the last

year and a half headache, with dragging in the nape of the neck, and, if the headache be very severe, vomiting have set in. The symptoms are present after colds or violent straining of the arm.

In case 27 the menopause was established after six months. Few nervous symptoms appeared. Cure.

The 28th has violent attacks of pain after eating, three or four times a year, with abdominal distension and vomiting, followed by painful defœcation. Slight pain in the bowels follow for two or three days, with a feeling of heat and thirst. She is bedridden for two or three days after such an attack, and defœcation is painful for a week. In about eight days she is well again. Four years after the operation she was well, and appeared much healthier and stronger than before, though thin.

Menstruation ceased in the 29th case for two or three months, then periodical hæmorrhages returned and lasted for two years. One year after a fistula formed in the scar, and a ligature escaped; the wound then healed. Many of the old symptoms are still present, but walking and standing are possible, and the urinary troubles have ceased.

After the operation, the 30th case was ill for six months. She had nervous headache, bleeding every ten or twelve weeks, was then laid up for four weeks, then better, but suffered from severe headache. In two years she was better; after that, however, pains set in in the lower abdomen, and became severe, urinary troubles, migraine, with vomiting. She became very nervous, sleepless, bedridden, unable to think, etc. Four years after the operation she was admitted into a hospital, and subjected to general treatment, and got much better.

In case 31 the catamenia ceased for six months after the operation, then returned every two to four weeks, with pelvic and sacral pains: for a month before examination (eighteen months after the operation), these pains have become continuous; the nervousness and excitement are less; she feels, on the whole, much better than before the operation. She could do her work, but for the last four weeks with difficulty. Two years and a half after the operation irregular bleedings were still present, but less in amount, and the pain was less. She was able to work.

In case 32 there were irregular bleedings for five months after the operation, with pain; cramp-like pain in abdomen and sacrum; on the whole not so bad as before operation; much headache, giddiness, nervousness, palpitation; more trembling than before operation; bladder and rectal troubles continued. Three years after the operation she was not better and not worse. In four years

she presented considerable improvement, but still was troubled with vomiting, colicky pains, and oppression at the heart.

It will thus be seen that of the 10 patients forming the first group, 3 were cured by the operation, 4 had pain or neuroses, but far less severe than before the operation, and 1 required curetting and cauterising of the uterus before much improvement took place, and 2 were not better.

Of the second group, 3 only were cured forthwith, and 5 continue to suffer from more or less pain and nervous troubles.

Of the third group, 4 were cured after the operation, while 10 suffered for some years from pain, or hæmorrhages, or more or less severe nervous symptoms. In many of the cases the nervous symptoms have become less severe after two to four or six years, while in others improvement has taken place for a time, and then nervous symptoms have set in, in 1 case as late as two years after the operation.

Although all the cases except 3 were much better after the operation, yet 10 only can be said to have been cured by it. In the other cases cure was never obtained, or was obtained only after the lapse of some time, generally years.

There is no doubt that imperfectly formed generative organs are frequently associated with an ill-balanced nervous system, and consequently that neuroses are far more frequently associated with painful or imperfect performances of the functions of the uterus and ovaries than with disease of any other organ. The relation between them is not that of cause and effect, but the neuroses and the disorder of the generative functions are the result of a common cause. That pain resulting from disease of the generative organs, like pain from the disease of any other organ, may give rise to true reflex symptoms, and aggravate neurotic tendencies is true. Such reflex symptoms are, however, subject to law, just as the reflexes from other organs, that law being as follows :—The reflex symptoms arising from disease of any organ are met with only in those parts which receive their nervous supply from the same source as the diseased organ. So that the reflex symptoms arising from ovarian and uterine disease are found over a limited area only, and not over the whole body; and there is no reason for believing that removal of the ovaries can remove any other reflex symptoms than those indicated. At the same time pain in any part of the body may aggravate true neuroses, and the relief of that pain, be it by removal of the diseased ovaries or in other ways, may contribute indirectly, and indirectly only, to the cure or relief of the neuroses. The evidence at present goes to show that distant neuroses are not dependent upon ovarian

disease ; but that they are associated as the result of a common cause.

14. Spaying for epilepsy and hystero-epilepsy.

Leppmann (*Archiv. f. Gynækol.*, 1885, s. 57) thinks that in severe cases there is no essential difference between hystero-epilepsy and epilepsy, and concludes that if spaying is useful in hystero-epilepsy, it would also be indicated in cases of pure epilepsy, the origin of which can be referred to the generative organs. He thinks that epilepsy may be referred with certainty to the ovaries when it begins at puberty, and the attacks return at first with menstruation, and invade the intermenstrual interval at a later period only. He proposes to remove the ovaries in such cases at an early period, that is, before puberty is completed, and therefore before the disease has gained its full strength. This he has done in 3 cases, and these cases appear to fulfil his conditions.

The first patient was seventeen years of age ; she had convulsions with loss of consciousness when nine years of age ; at fourteen years she began to menstruate, and the fits returned, and continued to return just before menstruation every four weeks. The flow was slight, and accompanied by pain ; she had constant weight in the left ovarian region. She was under observation in hospital for four months before the ovaries were removed. During this period she was poorly once only ; but she had epileptic fits every four weeks, and attacks of fainting in the middle of the interval. The ovaries were removed in February, 1883 ; she never menstruated afterwards ; and in February, 1885, there was no essential psychical change in her.

The second case was seventeen years of age ; the fits began when she was thirteen years old ; returned every four weeks until she was admitted into hospital in August, 1882. The fits returned every fortnight from Easter until August, 1882, then returned regularly every four weeks ; the left ovary was large ; it swelled occasionally to the size of a dove's egg ; she had never menstruated ; twice she spat up some bloody froth.

The ovaries were removed in March, 1883, and in May, 1884, her condition remained unaltered.

The third case was operated upon at the end of January, 1885, and an insufficient time (a month) has elapsed since to judge of the effects of the operation.

These operations have failed entirely of their intended purpose ; and this goes to confirm our observations at the end of the preceding paragraph.

Ergotin, Ergotin, and Sclerotic Acid.—Markwald has experimented on dogs and rabbits with the view of testing the effects

of ergotinin, ergotin, and sclerotic acid (*Bulletin Génér. de Thérapeutique*, p. 540), and he came to the following conclusions:—

Ergotinin has no influence on the rapidity of a hæmorrhage. Under the influence of ergotin hæmorrhage increases; under that of sclerotic acid it diminishes.

Ergotinin is to be employed neither for causing uterine contraction nor for arresting hæmorrhage. Ergotin and sclerotic acid are equally efficacious for causing uterine contractions, and consequently for arresting hæmorrhage from this organ.

Sclerotic acid appears to possess in addition the power of lowering blood tension—the power of being a hæmosatic. Sclerotic acid is not suited for use in obstetric practice, inasmuch as it does not form saline combinations for hypodermic injection. We should, therefore, fall back on ergotin. It should be used in a weak solution of salt, for it is then more readily absorbed, and causes less pain and swelling. For fibroid tumours doses of 50 milligrammes of pure ergotin should be used, and for post partum hæmorrhage 1 or 2 grammes, repeated if necessary.

15. The use and abuse of Battey and Tait's operation.

Baker (*Boston Medical and Surgical Journal*, 1885, p. 150) formulates the following conclusions, which are, in the main, sound:—

1. That these operations be restricted to cases in which structural changes in the ovaries or tubes have been clearly made out in advance, and where well-directed treatment of less formidable character, though perseveringly tried for months, has wholly failed to give relief.

2. That, in addition to the foregoing, the removal of the uterine appendages may be necessary in some cases where the process of menstruation immediately jeopardises the life or the mind of the patient, even though no structural change in these organs can be previously diagnosed.

3. That, when once the diagnosis of cyst of the ovary has been established, delay in its removal only increases the danger to the patient without giving an adequate return from the increased facility in performing the operation gained by the greater size of the cyst.

4. An exploratory incision may sometimes be warrantable, if, from various reasons, there is an inability to perfect the diagnosis without.

16. The excision of ovarian tumours with retention of the ovary.

Schroeder (*Zeitsch f. Geburtshu Gynæk.*, 1885, s. 358) has operated on six cases of ovarian tumour, leaving the ovary or part of it. He stitches together the edges of the wound in the ovary. One

of the patients died. Schroeder thinks that the occurrence of menstruation, and even the theoretical possibility of conception, are matters of importance to girls and women, and consequently that this mode of removing ovarian cysts deserves attention.

17. Extirpation of the uterus for cancer.

Bokelmann (*Archiv. f. Gynæk.*, 1885, Bd. 1, p. 75) gives an account of nineteen cases of total extirpation of the uterus for cancer performed in Breslau. In all the cases the disease was seated in the portio vaginalis or in that and the cervix. Two others were attempted, but the operation was not completed. The operation was performed according to Fritsch's method in the following manner:—

The external parts were washed with soap, shaved, and disinfected with a solution of corrosive sublimate; the vagina was disinfected with sublimate.

The first step in the operation is to cut through the vaginal wall on each side of the cervix, the separation of the cervix from the parametric tissue, and the tying of the uterine arteries. The bases of the broad ligaments are not tied in mass, but the vessels are tied separately. This ensures against bleeding—a serious danger in the operation. In this manner bleeding is easily and completely stopped. The next step is to divide the anterior vaginal wall by joining the two lateral incisions; then the bladder is separated from the uterus until the utero-vesical fold of the peritoneum is reached. This is cut through and stitched to the edge of the wound in the vagina so as to diminish the surface of the wound as much as possible. The uterus is then dragged down and the fundus turned into the vagina by means of volsella.

The third part of the operation deals with the broad ligaments. The uterus is now excessively anteverted, and a sponge thoroughly disinfected with a three per cent. solution of carbolic acid is placed above the fundus in the opening in the peritoneum. This prevents the entrance of blood through the opening, protects the peritoneum, and prevents prolapse of the intestines. The broad ligaments on each side are tied in parts and the ligatures are linked. The ligaments are next divided, and afterwards the posterior vaginal wall, and the peritoneum stitched to the edge of the vaginal wound as was done anteriorly.

After the uterus has been separated, the wound and Douglas's pouch are thoroughly cleansed and dried by means of iodoform gauze sprinkled over with a small quantity of iodoform.

The edges of the wound are not closed, but a loose plug, formed of slips of iodoform gauze, is inserted into it. This plug is left until fever shows itself, or until the tenth or twelfth day.

Injections are not used. Severe symptoms followed the use of injections of corrosive sublimate, so that Bokelmann thinks the peritoneum is very sensitive to that salt.

Of the nineteen cases operated upon in this manner seventeen recovered and two died; one of intestinal obstruction, and one apparently of septicæmia. In two the disease was seen to extend beyond the parts removed; in one a urinary fistula was formed.

All the patients who recovered were better except two, in which the disease was not entirely removed, and in one there was a urinary fistula. Backache, pain, and discharge had ceased.

These cases were operated upon between June, 1883, and October, 1884, so that insufficient time has elapsed to test the permanency of the cure. Nothing is, moreover said about the presence or absence of recurrence in the earlier cases.

The immediate results published in this paper are by far the best yet obtained in total extirpation for cancer. Nineteen cases were operated upon; in two the disease could not be entirely removed, and two died. This gives a mortality of 10·5. With such a mortality the operation may be fully justified in certain cases of cancer of the body, but it is by no means justified in cases of cancer of the cervix. The results from supra-vaginal amputation of the cervix before antiseptics were so favourable in the last-named form of the disease, that it may be justly expected this method of operating to give yet far better results when antiseptics are employed, and the vessels at the base of the broad ligaments carefully tied. Moreover, the question of recurrence comes also into consideration. Should it be shown that recurrence is less frequent after total extirpation than after supra-vaginal amputation, and should the death rate after the former be no greater than after the latter, then the former operation will have been established on firm bases—but not till then, at least in cases of cancer of the cervix.

The subject has been discussed by the Obstetrical Society of London, the Surgical Society of Paris, and the American Gynæcological Society. In the Obstetrical Society the discussion followed a paper by Dr. William Duncan (not yet published), and the operation was almost unanimously condemned. In the Surgical Society of Paris the discussion was opened by Boekel, and the opinions expressed generally were unfavourable to total extirpation. Dr. Munde opened the discussion in the American Society, and in the debate which followed opinions were divided. In the "Year-Book" for 1884 we discussed the subject fully, and the chief contribution to it published since is that of Bokelmann, referred to above.

MIDWIFERY.

BY FRANCIS H. CHAMPNEYS, M.B., F.R.C.P.,

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I. On the severe or so-called "uncontrollable" vomiting of pregnancy.

Dr. Graily Hewitt (*Obstetrical Transactions*, Vol. xxvi., 1884, p. 273) discusses the above question, with a survey of a large number of cases collected from various sources.

The author concludes (1) that the cases in which the disease is due to some other organ than the uterus are too few to deserve consideration ; (2) that the cause is interference with the expansion and growth of the gravid uterus, most frequently caused by incarceration of the uterus in the pelvis (flexion), and also by hardness, resistance, or unusual rigidity of the os and tissues of the cervix. The treatment suggested includes the relief of the "incarceration" by the fingers or an air-ball, followed by a pessary and postural treatment, and also dilatation of the cervix.

In the discussion it was objected that anteversion or ante-flexion is found in some eighty per cent. of puerperal women through lying on their backs, and that they do not vomit ; that flexion has never been proved to disturb the circulation in the uterus, and that in retroversion of the gravid uterus, where pregnancy, flexion, and incarceration are all present, vomiting is not one of the usual symptoms ; that the vomiting of pregnancy ceases suddenly and spontaneously, hence the need of caution in arguing from the results of treatment ; that in ordinary vomiting of pregnancy the vomiting often occurs only in the morning, though flexion remains ; that the vomiting of pregnancy is always practically uncontrollable, in the sense that nothing is certain to control it ; that the real division is into the ordinary vomiting and "pernicious" vomiting, closely allied to acute yellow atrophy of the liver, and associated with granular degeneration of the glands ; that in many of the cases quoted there were other causes

competent to produce the vomiting; and that vomiting of pregnancy is essentially a neurosis.

2. Pernicious vomiting of pregnancy.

Dr. E. W. Roughton (*Lancet*, Sept. 5, 1885) relates a case of the pernicious vomiting of pregnancy. The author observes that it has recently been shown that in normal pregnancy the great glands of the body, such as the liver and kidneys, undergo what is known by pathologists as cloudy swelling, changes which are almost identical with the first stage of the acute fatty degeneration of Bright's disease, and of acute yellow atrophy of the liver. Probably the natural or physiological vomiting of pregnancy has some causal relation with this altered state of nutrition. But if to this be added the influence of some exciting cause (concerning the precise nature of which authors are not at present agreed) the change proceeds further, and passes into acute fatty degeneration with the production of eclampsia, or the pernicious vomiting of pregnancy, according as the brunt of the disease falls upon the kidneys or upon the liver. The following case illustrates many of the clinical features of this affection:—

A primipara, æt. 20, last menstruated at end of November. A month later she began to suffer from sickness, at first only in the morning, 8.0 a.m. till 11 a.m., but in January the sickness became more severe, commencing at 2.0 a.m. and lasted all the morning. She brought up everything she took. From February till she came under observation, on April 16th, the vomiting was almost continuous. She was then weak, emaciated, and looked very ill; her face wore an aspect of anxiety, and gave evidence of great suffering; the conjunctivæ were slightly jaundiced, but hardly any bile pigment could be recognised in the skin. She stated that her bowels were usually much constipated, but that she had sometimes noticed her motions to be loose and black. There were no physical signs of hepatic disease. Temperature normal. Heart and lungs healthy. Uterus presented the normal characters of five months' gestation. Urine contained a trace of albumen and some bile pigment, but no casts were discovered, nor any evidence of presence of leucin or tyrocin. She was ordered to be fed on iced milk and soda-water, and to take an effervescing mixture of citrate of potash. On April 18th she was much better, had only vomited twice, had kept down considerable quantities of milk, and had slept fairly well; but at 6.30 p.m. her mental condition became suddenly changed; she commenced to shout at the top of her voice, and to throw her arms about violently. This hysteroid attack lasted a few minutes, and was followed by an interval of calm, during which she seemed quite

confused, talked unintelligibly, and would not answer when spoken to. Had a second attack ten minutes afterwards, exactly resembling the first. A draught of chloral and bromide of potassium was administered, after which she remained quiet, and was rather more collected until midnight, when she had another similar attack, after which she remained in a semi-delirious state, but could be temporarily brought to consciousness. At 3.0 a.m. on April 19th it was determined to induce miscarriage. A laminaria tent was introduced into cervix. As she continued to show tendency to be convulsed, she was kept partly under the influence of chloroform. Labour terminated naturally at 7.30 p.m. There was considerable post-partum hæmorrhage; liquor amnii contained bile; foetus was natural. Consciousness returned five or six hours after delivery, and she became quite rational. She made an uninterrupted recovery, but urine of low specific gravity was passed in large quantities, and remained bile-stained for four days after the miscarriage.

3. Report of a case of pregnancy in the left horn of a bifurcated uterus treated successfully by hysterectomy, with observations upon the nature and the proper treatment of so-called "missed labour."

Dr. Angus Macdonald (*Edinburgh Med. Jour.*, April, 1885, p. 873) reports a case which was operated on in the belief that it was a rapidly growing fibroid in the anterior wall of a small uterus. The patient had borne a living child at term three years previously, and had noticed a lump gradually increasing in size for the last two years, menstruating regularly. The patient menstruated once, eleven months after the birth of her child; four months later she felt movements. Eleven months after her menstruation she had severe pains, lasting continuously for three days, followed by a red discharge in lumps, one lump being said by the doctor to be a "conception." The pain gradually ceased. Two months later regular menstruation was resumed. A year later there was a large oval tumour in the abdomen, the long axis running from the right Poupert's ligament obliquely upwards and to the right. The cervix felt natural, not fibroid. The sound passed upwards and backwards $2\frac{1}{2}$ inches. On incising the tumour, supposed to be a fibroid enlargement of the uterus, a mature macerated male foetus, weighing 5 lbs. 6 oz., and 19 inches long, was found. The sac was distinctly uterine, being marked by the uterine appendages. The author quotes a very similar case of Litzmann's, published in the *Arch. f. Gynækologie*, Bd. xvii., s. 281. Both were cases of a bicorned uterus with a single cervix, the second horn being connected with the cervix by a small opening, too small for delivery.

The author also refers to cases described by Professor Turner, M. Salin, of Stockholm, and Dr. Sanger.

The chief interest of the case consists in its bearings on the question of "missed labour." The author is of opinion that most of the recorded cases are cases of pregnancy in a bicorned uterus. A small communication with the cervix is rendered probable, not only by the occurrence of pregnancy, but also by the absence of hematometra. This view explains the fact of patients the subjects of "missed labour" having had previous natural pregnancies, the presence of stinking discharges and fetal parts issuing through the normal cervix, or the feeling of fetal parts through the normal cervix, the possibility of natural menstruation and pregnancy occurring in one half of the uterus, while a dead fetus is in the other half. In this case the "lump" passed by the patient must have been the decidua of the unimpregnated half.

As regards diagnosis, marked obliquity of the abdominal tumour, free lateral mobility, and the history of previous pregnancy or pregnancies at full time, together with the resumption of menstruation after "missed labour," should suggest a double uterus.

4. A plea for episiotomy.

Dr. W. P. Manton (*American Jour. of Obstetrics*, March, 1885, p. 225) speaks in favour of perineal incision as a precautionary measure.

He first reviews the literature of the subject, and contradicts the assertions that perineal ruptures are always clean-cut, and that they always heal if sutured. Apart from disproportion between the size of the fetal head and soft parts,—pelvic deformities abnormal conditions of the perineum, artificial delivery, violent expulsive efforts, position, disease, want of elasticity, must be remembered.

The author then gives various tables, showing the frequency of perineal ruptures in general, in primipare, in multipare, and in elderly primipare, which differ widely, according to different authors.

He prefers the knife to the scissors, and avoids dividing the skin, the usual length of incision being 1 to 3 cm. ($\frac{1}{2}$ to $1\frac{1}{4}$ inches). He finds sutures generally unnecessary, but dusts the wound with iodoform, and finds that the incisions heal perfectly in a week without deformity.

He quotes Crede as to the dangers of septicemia, spontaneous ruptures, and ruptures in spite of incision. His own table of 957 primipare, observed in the Vienna Klinik, is as follows :—

Lateral incisions ...	...	...	...	38	or	0.396	per cent.
Spontaneous ruptures ...	...	...	...	22	„	0.229	„
Ruptures in spite of incision ...	...	...	...	2	„	0.208	„

His conclusions are :—

1. The percentage of ruptures is very great.
2. Certain conditions of the soft parts, etc., predispose to rupture.
3. Episiotomy diminishes the frequency of ruptures to a minimum, and saves much suffering thereby.
4. Rupture after incision is very rare.
5. Incision does not increase the danger of infection.

5. The advisability of single lateral incisions for the prevention of perineal ruptures.

This often debated question is dealt with by **Credé** in the *Archiv. für Gynäkologie* (Band xxiv., s. 148), and discussed, in view of the objections generally urged, by the light of the experience of the Leipzig Lying-in Hospital.

After premising that statistics of the frequency of perineal ruptures in different institutions do not furnish the information required, viz., the frequency of *absolutely too small vulvar orifice*, inasmuch as they naturally include pathological conditions of the perinæum, deformities of the pelvic outlet, etc., the author gives a brief review of the history of the subject, showing that Michaelis was the first to recommend this procedure A.D. 1799. He then describes the method in vogue in Leipzig. A strong straight pair of scissors is used, one blade being introduced within the vulvar orifice, some 2 or 3 centimètres (about an inch) above the middle of the fourchette, the blade of the scissors lying flat between the head and the vulva. Then, after the height of a pain is past, a bold cut is made outwards towards the tuber ischii, 1 to 3 centimètres (about $\frac{1}{2}$ to 1 inch) through the skin only, or through the muscle also, according to the situation of the obstruction. One side only is incised.

Next, as regards the indications, these should depend on the indications of inevitable rupture; but these, again, are not trustworthy, including commencing discoloration of the skin. The rule at Leipzig is, "When in doubt—cut!"

As regards the time of incising, this is just after the height of a pain; not at the height of a pain, in order to avoid the almost uncontrollable advance of the head which is usually observed, and which often leads to excessive laceration. Just as the pain is passing off, the tissues are so tense that they are more bloodless, the extent of the excision is more easily determined, and the suffering is less than when pains are absent.

The after treatment consists in the closure of the wound by a silk suture. The incision forms a rhomboidal wound, the long diameter of which is parallel with the edge of the vulvar

orifice. This is first united by a deep suture, also parallel with the edge of the vulvar orifice, and another, if necessary, is added in a manner explained by figures; but as it seems to us, a superficial continuous suture would be the best secondary suture. Union without suture is not to be expected, and this we know to be the case from tears of the labia in labour, but with suture these clean cut wounds usually heal easily.

The author next mentions the objections usually urged to this procedure.

1. That the ulcers which result retard recovery.
2. That they are possible sources of infection.
3. That the perinæum sometimes tears after all.
4. That the pain of the operation is an objection.
5. That the injury to the vulva deforms it, and prevents its subsequent closure.

He discusses these objections seriatim, taking his text from 2,000 labours, of which 997 were in primiparæ, 1,003 in multiparæ, or practically 1,000 of each. The following is his table:

I. PRIMIPARÆ (1,000).

Lateral Incisions	...	...	...	259	=	25.9	per cent.
Spontaneous Ruptures	...	...	...	104	=	10.4	"
Ruptures in spite of Incisions	...	...	...	29	=	2.9	"
				<hr/>			
Perineal Injuries	...	392		39.2			"

II. MULTIPARÆ (1,000).

Lateral Incisions	...	...	...	12	=	1.2	per cent.
Spontaneous Ruptures	...	...	...	24	=	2.4	"
Ruptures in spite of Incisions	...	...	...	0	=	0	"
				<hr/>			
Perineal Injuries	...	36		3.6			"

III. PRIMIPARÆ + MULTIPARÆ (2,000).

Lateral Incisions	...	...	...	271	=	13.5	per cent.
Spontaneous Ruptures	...	...	...	128	=	6.4	"
Ruptures in spite of Incisions...	...	...	...	29	=	1.4	"
				<hr/>			
Perineal Injuries	...	428		21.3			"

1. As regards the effect of the local wounds, a careful suture almost invariably produces repair in five or six days. But before the suture was in vogue, only nine cases out of 271 became ulcers, and all these were nearly or quite healed on the discharge of the patients.

2. As regards the effect on the lying-in. A "normal puerperium" is practically one in which the patient was

discharged within fourteen days, well. Fatal cases are reckoned as "abnormal."

Of the 2,000 patients, 229, or 11.45 per cent., were discharged after the fourteenth day.

Of the primiparæ (who usually take longer to recover than multiparæ) the figures are as follows:—

Discharged after Fourteenth Day.

Primiparæ (1,000)	...	...	...	161 = 16.1 per cent.
With Lateral Incision (259)	...	...	...	55 = 21.2 "
With Rupture (104)	...	...	...	28 = 26.9 "
With Incision and Rupture (29)	...	...	...	9 = 31.0 "
With Injury to Perinæum (392)	...	...	...	92 = 23.1 "
Without Injury to Perinæum (605)	...	...	...	69 = 11.4 "

The author explains the slight excess of patients in this table who have had incisions, compared with those whose perinæums are uninjured, by the reminder that those who did not require incisions were otherwise well formed and capable of favourable labours.

Primiparæ, with intact perinæums, resemble multiparæ as regards the course of labour, but, in spite of this, the following are the figures of the lying-in of each class:—

Discharged after the Fourteenth Day.

Primiparæ (1,000)	...	...	...	161 = 16.1 per cent.
Multiparæ (1,000)	...	...	...	68 = 6.8 "

As regards infection, the author (rightly) rejects the idea of "self-infection" as practically a nonentity, and says that infection comes from *without*. He reminds us that a labour rarely occurs without *some* breach of surface, that injuries to the perinæum occur *late* in labour, whereas those of the cervix occur *early*, and, moreover, that in an institution used by students it is the cervix which is most fingered. There are, therefore, plenty of channels for infection before the question of a perineal wound arises. The patients, as above remarked, who *require* incisions, are, again, those who are less favourably formed for labour.

As regards statistics: There were 33 deaths in the 2,000 cases; of these 19 were from sepsis, the other 14 being due to eclampsia, rupture of the uterus, and intercurrent diseases. Of these 19 septic cases, 15, or 0.954 per cent., occurred in 1,572 patients with uninjured perinæums, and 4, or 0.934 per cent. in those with perineal injuries, showing that the infection cannot be laid to the charge of perineal injuries.

In cases which recover, the diagnosis of septic infection is very difficult, but 60 appeared to be of this nature.

Of the 1,572 patients with uninjured perinæums, 46, or 2·94 per cent., were infected; of the 428 with perineal injuries, 14, or 3·24 per cent., were infected. Such a small excess is explained in the same way as above.

3. As regards the objection that the perinæum sometimes tears after all: This occurred 29 times in 300 cases of incision, or 9·6 per cent. But among these occurred 15 children, weighing over 3,500 grammes, and among these cases 3 forceps deliveries, one with malpresentation, four with granular vaginitis; in 3 other cases, where the child was not excessively large, there was intense granular vaginitis, three times there was rottenness of the tissues from syphilis, once there was anterior parietal obliquity, once there was hydrocephalus, and twice laceration by the shoulders. This leaves only 4 cases in which the laceration of the perinæum, in spite of incision, could not be otherwise explained, and in these cases the great force with which the head is apt to emerge after incision must be remembered, as well as the danger of rupture from *insufficient* incision.

At Leipzig the frequency of incision and of rupture are directly antagonistic, as is seen from the practice of the five assistants, who resorted to incision with varying frequency:

Incisions in Primiparæ.

10·3 per cent.

20·4 "

26·3 "

28·0 "

32·0 "

Ruptures in Primiparæ.

20·7 per cent.

11·8 "

11·0 "

7·4 "

7·2 "

In no case did complete rupture follow incision, except in one, which had previously been torn and repaired by operation.

4. As regards the pain of the operation: The author dismisses this as too slight to be seriously considered if the incision is practised at the time indicated. Moreover, by shortening the most painful part of labour it really *saves* suffering.

5. As regards the deformation of the vulva: If the suture is used, there is no tendency to prolapse, and the chances of it are far less than in the laceration generally avoided by incision.

The author sums up as follows:—

It is very rarely, and only in very unfavourable and exceptional cases, that laceration follows incision. The oftener incision is practised, the rarer are lacerations; complete ruptures are abolished; the lying-in is far more favourable after incision than

after laceration. Incision prejudices recovery inappreciably, or not at all ; the vulva is not really damaged. Incision does not favour infection ; the pain is trivial, and pain is saved by shortening the most painful stage of labour ; by relieving pressure it helps to avoid sloughing.

In considering these conclusions, which are based on accurate observations, and which advance the subject to a point not previously reached, it is necessary to remember that ruptures of the perinæum are due to two principal failures : (1) failure of the perinæum to contain the head, the typical example of which is the central rupture ; and (2) failure of the vulvar orifice to expand sufficiently. The second only of these varieties is here considered. If incisions tend to prevent ruptures of the second class, there is no evidence to show that they directly prevent those of the first class.

The answer to objection No. 3, that the more frequent the incision the rarer the rupture, is only what might have been expected ; no doubt it is so, but the same argument applies to frequent (even too frequent) use of the forceps and of many other interferences, and this answer hardly helps us to a decision.

We may readily concede that a moderate incision which prevents great laceration is preferable to a great laceration, and the question centres itself round the indications of inevitable laceration ; but these are not forthcoming. If the author can formulate these, we think his position will be proved, and to this attention should be directed.

Complete laceration through the sphincter ani is, under good management, an exceedingly rare accident. Much has been written on the means of the avoidance of laceration, which may be summed up in a word by saying that they consist in providing for the emergence of the head in the most favourable manner, both as regards mechanism and rapidity. Among the means for preventing central rupture may be mentioned gentle support with the hand, to prevent too rapid descent of the head ; hot fomentations, lubrication, chloroform for suppleness of the tissues ; and for the avoidance of lacerations of the vulvar orifice, the same measures, but particularly care that the head shall pass out of the vulva with the least possible circumference, namely, the *sub-occipito-frontal*, in other words, care to prevent extension before the nape of the neck is well below the pubic arch. Many lacerations occur from premature extension of the head. The art of supporting the perinæum will be seen to require considerable knowledge of the exact mechanism of labour among other things, and to require also great care in applying principles. If laceration

begins, and incision is not resorted to, everything depends upon the slowness with which the head is delivered. If the progress of a laceration thus conducted be carefully watched, it will be seen that *each minute extension of the laceration permits retraction of the tissues posterior to it*, and so far tends to put them out of danger. Whether the sphincter ani shall be involved or not depends often upon the time which is allowed for this retraction. If the head is allowed to emerge rapidly, this benefit is lost, and it tears suddenly through all the tissues before it, often including the sphincter ani. The most convenient way of controlling the head is to pass the left hand over the right thigh on to the occiput, and to support the perinæum with the right; by this means the head is absolutely in the power of the two hands. We have not alluded to the question of malpositions.

In conclusion, we are inclined to advise our readers to wait for more precise indications as to the signs of impending rupture before embarking in private practice on the system of preventive incisions, unless they feel themselves competent to use very fine discrimination. We are far, however, from denying that there are cases in which incisions may be profitably practised.

6. On the application of the forceps in occipito-posterior and mento-posterior positions.

Dr. F. Loviot (*Annales de Gynécologie*, Oct., 1884, p. 241) reviews the question and method of applying the forceps in occipito-posterior and mento-posterior positions.

First in occipito-posterior positions: If the forceps is applied according to the rule advocated by all French authors, to the extremities of the unoccupied oblique diameter (*i.e.* in a third vertex position to the extremities of the left oblique diameter, which the French authors call the *right* oblique diameter), it is evident that, if the occiput rotates forwards and the third becomes a second position, the pelvic curve of the forceps will eventually look backwards, and the forceps will have travelled round three-eighths of a circle. If rotation has been accomplished by torsion of the forceps without corresponding rotation of the body of the foetus, the neck of the foetus will have been wrung. In spite of the disproof by Tarnier and Ribemont of any injury to the foetal neck by this means [in the case of dead, though not necessarily of living children—F. H. C.], the author rejects the manœuvre on the grounds of friction to the maternal soft parts by the long rotation of the forceps and of probable injury to them by the reversed position of the forceps during delivery of the head. If, in a third vertex position, the left blade is applied first, it is likely to produce posterior rotation of the occiput and

to make the oblique into a direct face-to-pubes case. He recommends the following manœuvre:—If the occiput is directly posterior, the operator must ascertain, by abdominal examination of the position of the back, the side to which it properly belongs. If it is directed (*e.g.*) to the right sacro-iliac synchondrosis, the left hand is inserted, palm forwards, along the curve of the sacrum, and pushes the occiput forwards, until it seizes the posterior parietal tuberosity. During this time the right hand supports the fundus uteri. The radial edge of the index finger frees a space between the posterior wall of the pelvis and the head, turning the occiput forwards until the hand occupies the part in front of the right sacro-iliac synchondrosis originally occupied by the occiput. This space is to be occupied by the right blade of the forceps. The long diameter of the head has by this manœuvre been shifted from the left to the right oblique diameter of the pelvis, for it rarely remains in the transverse diameter. The right blade of the forceps is now inserted first in order to maintain the new position, and then the left blade, opposite the left obturator foramen; the blades occupying the position usual in the second vertex position, and extraction proceeding as usual.

In cases of fourth position the same manœuvre is adopted *mutatis mutandis*, *i.e.* the right hand is inserted, the occiput rotated to the left, and the left blade inserted first. By this manœuvre each blade traverses only one-eighth of a circle, and no violence is done to the soft parts by an eventual false position of the pelvic curve.

The rule may be thus formulated: "That blade is introduced first which corresponds to the side originally occupied by the occiput, and it is applied at the spot originally occupied by the occiput." The cause of transverse positions is usually pelvic contraction, rarely prolapse of a foetal part.

In the case of mento-posterior face positions, the same principles apply. Unless the chin turns forwards delivery is impossible. If the forceps is roughly applied it will produce flexion instead of extension, the head may become impacted, and delivery again impossible. This is the case in mento-posterior face cases, the forceps taking hold in front of the axis of flexion, and producing descent of the occiput (= flexion); in mento-anterior cases the forceps takes hold also in front of the axis of flexion, but this produces descent of the chin (= extension), Q. E. F.

In mento-posterior cases, therefore, the author recommends precisely the same manœuvre as in the case of the occipito-posterior cases, *mutatis mutandis*, *i.e.* reading chin for occiput. Thus, in right mento-posterior cases, the left hand is inserted

along the hollow of the sacrum, pushes the chin forwards and to the right, clears a passage for the right blade of the forceps in front of the right sacro-iliac synchondrosis, and this blade, once inserted, prevents posterior rotation of the chin; moreover, the forceps occupies at once the proper position for the delivery of the head.

The principles will be seen to be (1) rectification by pressure on the occiput or chin, changing an oblique or even antero-posterior position into a transverse position; (2) application of the forceps in the diameter formerly occupied by the head; that blade being applied first which corresponds to the place originally occupied by the occiput.

The subject handled by the author is well known to be one beset with difficulties, nor do we think one rule will apply to all cases.

If the head is high the position may be corrected, in face cases, by bringing down the occiput. If not, it may be improved by strong flexion in the case of occipito-posterior positions, and by strong extension in that of mento-posterior positions, on the principle that, in order to favour forward rotation of a part, its descent should be favoured. This is often accomplished by pressure on the anterior-lying temple in a direction upwards and backwards. This tends to produce flexion and forward rotation in the case of the occiput, and extension and forward rotation in that of the chin.

We do not quite see why, in the case of right occipito- and mento-posterior positions (which are far commoner than left), rectification should not be attempted by this manœuvre, and the left blade fix the head first. This would avoid awkward crossing of the handles. In the case of left occipito- and mento-posterior positions (which are rare), the author's manœuvre requires the application of the left blade first, as in ordinary cases. The question is one for future experience to decide. No doubt, where rectification by the above method is difficult, the author's manœuvre should be tried.

7. Forceps to the after-coming head.

Credé (*Archiv für Gynäkologie*, Band xxv., s. 324) strongly recommends this practice in suitable cases.

After a short review of the history of the subject, he gives a table of 16 cases occurring in the Maternity Out-Patient Department of the Leipzig Lying-in Hospital since 1878.

His results are as follows:—

There were 8 cases of normal, and 8 of contracted pelvis.

There was only 1 maternal death, viz. from secondary

hæmorrhage on the sixth day, the patient having got up against orders. The foetal presentations were: transverse = 6; breech = 4; vertex = 3; footling = 3.

Turning was practised 9 times.

Foetal deaths numbered 4, 3 in cases of contracted pelvis.

The complications in the cases fatal to the child were prolapse of the cord, with difficult turning in a flat pelvis = 2 cases; protracted labour in a flat pelvis, with rigidity of the soft parts = 1 case.

Protracted labour in a normal pelvis, with rigidity of the soft parts = 1 case.

The greater part of the paper consists in replying to the objections urged by Schroeder in his handbook to this practice. Schroeder thinks that if manual extraction fails, forceps will fail also. But Credé replies that the forceps succeeded in 12 cases in which manual extraction had already failed.

For the purposes of busy practitioners this dispute is not of great importance, except in so far as it leads to a better formula of treatment.

The subject is intimately connected with the larger subject of the extraction of the after-coming head.

The following facts should be remembered:—

1. The foetal neck gives way to a strain of about 120 lbs., and the neck is weaker than the joints of the leg, in fact, the weakest part.

2. Obstruction is of two principal kinds, viz. that due to the bones, and that due to the soft parts (cervix uteri, or perinæum).

3. The after-coming head in passing through a flat pelvis lies with its long axis transverse, and (as in the case of head-first cases in this pelvis) in a state of slight extension.

To illustrate these points, it will be well to consider one or two representative cases:—

1. That of a head passing through a normal pelvis, the brim being already passed, and the obstruction consisting in the unyielding cervix, which embraces the neck. Here the object is to get the head out, presenting the smallest available circumference. This smallest available circumference is the sub-occipito-frontal, and to present this the head must be flexed.

The best thing to do is to adopt the Smellie-Veit manœuvre, to pull by the shoulders, and also, if necessary, with two fingers in the mouth of the child on the gums. This accomplishes a two-fold object, to transfer some of the strain from the neck directly to the head, and also to produce flexion.

Should this fail, the head is probably so placed that the face

looks towards the hollow of the sacrum, and the forceps is easily applied, especially as the head is low.

In the case of obstruction from the perinæum the same holds good.

2. The case of a head arrested above the brim in a flat pelvis.

Here the head is almost certainly transverse; it is high up, and the cervix has probably retracted little if at all. The obstruction is due to the bones.

This is the really difficult class of cases. It is of the greatest importance to have the patient in proper position, viz., in lithotomy position, at the edge of the bed, and also to have a thoroughly competent assistant.

First extraction should be attempted by the method mentioned above. But it should be remembered that flexion is *not* here the object, but that, on the contrary, the head passes through the strait *extended*. The assistant should press on the head from above. Now supposing this fails, that is, if a force of 120 lbs. from below, added to an indefinite force above, fails to deliver, it is unlikely that the forceps will effect delivery.

Then as to the difficulties. The cervix is generally not retracted, the head is high, and lies transversely. This involves passing the blades of the forceps through an orifice probably not larger than a crown, high up in the woman's body, and then outwards so as to embrace the fronto-occipital diameter of the foetal head. This is often an impossibility. If the cervix is retracted, the difficulties are even then more than those of applying the blades to a head transverse at the brim in a vertex presentation. The danger of cutting the mother's soft parts, if there is much contraction, must be remembered. In generally contracted pelvis version is contra-indicated, and the difficulties of extraction are much increased.

The tables in the paper before us do not give special information as to the position of the head, whether it had passed the brim, whether it lay transverse, the condition of the cervix—all of them very important.

In conclusion, we advise our readers to have their forceps ready to deal with the after-coming head, but to expect little from it where the head lies transverse above the brim, while in the first class of cases (due to the soft parts) they may find it (as we have done) of great service if extraction fails.

8. On combined turning in the treatment of placenta prævia.

Dr. Lomer (*American Journal of Obstetrics*, December, 1884, p. 1,233) contributes a most valuable paper to the literature of

this important subject. This paper we recommend to the attention of practitioners in its entirety; indeed, so full is it of good work that an adequate extract would be nearly as long as the original paper.

The author justly accords the honour of combined turning to Braxton Hicks, and to the same English physician is due the credit of recommending it as the correct treatment in most cases of placenta prævia. Spiegelberg and Hecker opposed it, and Germany in general was some twenty years behind England, for Hicks' paper was published in 1860, while Hofmeier did not recommend the procedure till 1882, and Behm not till 1883. To the latter work we referred in last year's Year-Book.

Hofmeier's cases were treated in Schroeder's Policlinic in Berlin, and he operated in all cases himself; Behm's cases were treated in Gusserow's Clinic, in the Berlin Charité Hospital, and he operated in all cases himself. Lomer's material was the same as Hofmeier's (Schroeder's Policlinic), and his series begins where Hofmeier's ends, but his cases were treated by nine different assistants. The following table explains the respective and joint results in cases treated by combined version:—

<i>Author.</i>		<i>Cases.</i>		<i>Deaths.</i>		<i>Mortality.</i>
Hofmeier	...	37	...	1	...	2.9
Behm	...	40	...	0	...	0
Lomer	...	101	...	7	...	7
		178				4.5 per cent. mortality.

We can only allude briefly to the numerous questions considered and decided.

In what does the method consist?

1. Early bimanual turning. 2. Expulsion by nature, or very cautiously aided.

Bleeding ceases after turning and before extraction.

Historical notes.—Bimanual turning may have been practised before 1860, but it was never a practice till Hicks published his paper. Many authors speak of the special danger of laceration of the cervix from extraction in these cases. Hecker, who opposed Hicks' practice, did not employ it; in one case described by him he really did "accouchement forcé"! He also gave no chloroform. Spiegelberg and Müller objected that Hicks' method is difficult or impossible, and that hæmorrhage does not cease after version. Both these objections are groundless. Schroeder since 1877 has been in favour of the method, and Kaltenbach may be also cited in its favour. France and America do not seem familiar with it.

The author believes that the late introduction of the method for this class of cases is due to the following reasons—

1. That bimanual operations of all sorts were unknown.
2. Chloroform was unknown.
3. The fact that arrest of bleeding was produced by turning without extraction was unknown.
4. The life of the child was valued too highly.

Prognosis for the mothers is considered very bad, as the following table shows :

<i>Author.</i>			<i>No.</i>		<i>Deaths.</i>		<i>Per cent.</i>
(a) Charpentier	...	...	65	...	22	...	35
Depaul	...	...	71	...	23	...	32
Simpson	...	...	654	...	180	...	29
Schwarz	...	...	332	...	80	...	26
(b) Charpentier	...	...	952	...	237	...	25
Trask	...	...	938	...	237	...	25
Müller	...	...	912	...	212	...	23
King	...	...	240	...	54	...	22·5
			4,164		1,045		27·5

This, however, is far worse than the results under proper treatment, and even if the practice of one single operator is selected; thus

<i>Author.</i>			<i>No.</i>		<i>Deaths.</i>		<i>Per cent.</i>
Spiegelberg	...	...	102	...	16	...	16
Barnes	...	...	69	...	6	...	8·5
Hecker	...	...	70	...	7	...	10
Müller	...	...	15	...	0	...	0
Murphy	...	...	15	...	0	...	0
			271		29		6·9

If this method, however, is adopted with regard to the Berlin statistics, we get

<i>Author.</i>			<i>No.</i>		<i>Deaths.</i>		<i>Per cent.</i>
Hofmeier	...	...	37	...	1	...	2·9
Behm	...	...	40	...	0	...	0
Lomer	...	...	16	...	0	...	0
			93		1		1·07

This, however, is not fair, and the author's cases *alone* being treated by nine different, but presumably competent, practitioners, give a nearer approach to the truth.

The author also points out that the total reduction of mortality *due to antiseptics* must be discounted, especially when we

consider the wide employment of the tampon. This treatment is bad, as it renders turning difficult, and promotes blood-poisoning.

The author then gives the "*total number*" of the Berlin cases as 136, and gives the following table :

<i>Author.</i>			<i>No.</i>		<i>Deaths.</i>		<i>Per cent.</i>
Hofmeier	...	...	47	...	4	...	8.5
Behm	...	...	53	...	4	...	7.5
Lomer	...	...	136	...	13	...	13
			236				8.9

But if the cases *treated by combined version alone* are considered, we get

<i>Author.</i>			<i>No.</i>		<i>Deaths.</i>		<i>Per cent.</i>
Hofmeier	...	...	37	...	1	...	2.9
Behm	...	...	40	...	0	...	0
Lomer	...	...	101	...	7	...	7
			178				4.5 (as above).

This result is hitherto unequalled.

Prognosis for the children.—The author alludes to the absurdity of weighing the child's life against the mother's.

He then cites the following table of immediate foetal mortality :—

<i>Author.</i>				<i>Mortality per cent.</i>
Schwarz	...	...	...	75
Hecker	...	...	...	67
Barnes	...	...	...	64
Müller (2,360 cases)	...	...	...	64
Fritsch	...	...	...	60
Spiegelberg	...	...	...	50
Braun	...	...	...	50

There remains the *chance of survival*, for which statistics are not yet available ; but this chance is very small indeed, especially when the prematurity of these children and the complications of labour in these cases are considered.

The mortality under combined turning is :—

<i>Author.</i>		<i>Cases.</i>		<i>Deaths.</i>		<i>Mortality per cent.</i>
Hofmeier	...	37	...	23	...	65
Behm	...	40	...	31	...	77.5
Lomer	...	101	...	51	...	50
		178			105	60

This is even too unfavourable, for Behm gives the *ultimate* mortality.

The author concludes that :—

1. The average mortality of children born spontaneously, after turning, is not greater than that of those extracted immediately after turning. This danger has been over-rated.

2. The child's life is of so little value in these cases that the mother's should never be risked for it.

The advantages of the method described are :—

1. It abolishes the tampon, and diminishes the risks of septicæmia.

2. It allows early operation before much blood is lost.

3. It arrests hæmorrhage.

4. It gives to the patient time to rally ; to the cervix time to dilate ; and allows time for pains to begin. It therefore prevents post partum hæmorrhage from laceration of the cervix and uterine inertia.

Frequency.—In 6,882 cases of labour in hospital practice, there were 136 of placenta prævia, or 2 per cent. This is, of course, too high. It has been estimated for the general population at 1 in 1,564, and 1 in 1,078. In Berlin it is probably about 1 in 723.

Primiparæ—Multiparæ.—Only 8 per cent. of the Berlin cases occurred in primiparæ ; and 60 per cent. had been delivered at least five times before, and 12 per cent. at least ten times before. Large families are, therefore, predisposing causes.

Age varied from 21 to 26.

16—12	per cent.	were between	20 and 25.
46—34	„	„	20 and 30.
81—60	„	„	30 and upwards.
7—5	„	„	40 „

Lateralis and Centralis.—The author says that this diagnosis is often impossible, as it depends on the size of the cervical canal. A better division is taken from the amount of bleeding. In five cases the placenta was born before the child.

Presentations.—Transverse presentations were unusually frequent, perhaps from early interference which discovers transverse presentations which nature might have rectified later.

Head Presentations	=70, or 51 per cent.
Transverse ...	44, or 32 „
Foot and breech	12, or 9 „

Period of pregnancy.—The child was “full-grown” in 50 cases, or 40 per cent. In 38 cases of premature labour (29 per cent.) the length of the children was given.

8	were	35 to 40	centimètres long	(14 to 16 inches)	=	8th lunar month.
13	"	40 to 45	"	" (16 to 18 "	)	= 9th " "
17	"	45 to 50	"	" (18 to 20 "	)	= 10th " "

In the remaining 41 cases the length was not mentioned.

Methods of treatment.—Spontaneous delivery after rupture of the membranes occurred 30 times (including a few forceps cases), *i.e.* in 22 per cent. In 4 cases hæmorrhage did not cease after rupture of the membranes, and turning had to follow. 101 cases, or 75 per cent. (including the foot and breech presentations), were treated by the method of Braxton Hicks. In 5 cases the whole intact ovum was expelled with the placenta.

Relative mortality after delivery by the head and by the feet.—30 cases were delivered by the head.

23, or 77 per cent.,	were born alive.
7, or 23 " "	dead.

101 cases were delivered by turning and slow extraction.

51, or 50 per cent.,	were born alive.
50, or 50 " "	dead.

These figures do not answer the question, as the gravity of the two series is quite different.

The danger of turning for the child.—The prognosis for the child was the same whether turning was performed early (with undilated cervix) or late (with dilated cervix). It is probable (though not proven) that its chance of survival is not worse if the case is absolutely left to nature.

Out of the 139 children (including 3 cases of twins) 62 were born dead; of these 2 were born before the 28th week, 3 were macerated, 3 had prolapse of the cord on arrival of the doctor, 5 had pulseless cord during turning, 7 were born dead in head presentations. These amount to 20, and were certainly not caused by turning. Of the remaining 42 cases (31 per cent.), in 14 no foetal heart was audible at the time of turning. Subtracting these there remain 28 cases (20 per cent.) in which the child *probably* died during turning and extraction. Among these there were 4 cases of prolapse of the pulsating cord.

These numbers show the prognosis for the child in any case too bad to justify risking the mother.

Cases ending fatally for the mother.—There were 13 deaths out of the 136 cases. In 3 of these the patient was moribund on admission. (1) Bright's disease, contracted pelvis. Died

undelivered. No bleeding after version. (2) No bleeding after version. (3) No bleeding after version.

In debating the practice of early version, all cases not so treated must be deducted, including those in which the patient was already moribund. This leaves 101 cases, with 7 deaths, for calculation; of these, 3 died of primary septic infection, 2 were already infected before admission, 1 died after manual removal of the placenta; air being found in the veins, and in the "thoracic cavity"; 1 died of secondary hæmorrhage after laceration of the cervix.

In conclusion, the author speaks against the routine use of the plug, and of the sponge-tent; he asserts that bimanual version is an easy proceeding, and that chloroform should always be used; that after turning, and before extraction, hæmorrhage does cease, that concealed hæmorrhage almost never occurs, and that perforation of the placenta should (in urgent cases) be practised, though the operator should be prepared for smart bleeding until the leg is brought down. Pains generally set in quickly, and gentle traction is (by Lomer as against Behm) recommended. Rupture of the membranes, without version, is not altogether condemned in cases in which the head is in the pelvis, the placenta marginal, the pains strong, and bleeding not profuse; but it does not always stop the bleeding, and version is harder to perform after escape of the waters.

9. The treatment of placenta prævia.

Dr. Auvard (*Semaine Médicale*, 8 Avril, 1885, p. 117) gives the results of the treatment of 30 cases during the years 1882, 1883, and 1884, in the Paris Maternité, under M. Tarnier, by the tampon (method of Leroux).

After saying that of all methods proposed, two only have survived—viz., the method of Leroux (the tampon), and that of Braxton Hicks (bipolar turning), the author gives a *résumé* of the 130 cases published by Lomer (see above), and then proceeds to give details of his own 30 cases. Of these 3 ended fatally. The first, brought from outside, had been badly plugged, was intensely anæmic, and died two hours after admission. The second died twenty-eight days after delivery, of septicæmia, contracted outside the hospital, having gangrenous stomatitis when admitted. The third came into the hospital also intensely anæmic, and died of anæmia in spite of transfusion.

In the first 2 cases plugging was resorted to, though badly done; but in the third it was not tried. If this case is excluded, we have 29 cases with 2 deaths, or a mortality of 6·8 per cent.

The mortality given by Lomer is 4·5 per cent., and the conditions in Germany, where the cases can be treated in the Polyclinic from the first, are more favourable than those in France, where these cases have already undergone treatment, and that without due antiseptic precautions.

Of cases treated from the first none has died, the mortality of these is, therefore, 0 per cent.

Of the children, 15 were born alive, 14 dead. Fœtal immediate mortality=48 per cent., as against 60 per cent. at Berlin (Lomer).

These cases do not, says the author, bear out the reproach of septic mischief brought against the tampon. The only one of the 3 women who died of septicæmia was already infected on admission. Indeed, as far as regards septicæmia, these results are better than Lomer's, for all the 7 fatal cases in his series were from septicæmia.

He adds in a note the result of the Lariboisière under M. Pinard, during 1883 and 1884. These include 12 cases with 2 deaths. The first died of hæmorrhage, having been brought into the hospital very anæmic. The second, who had not been plugged either before or after admission, died of septicæmia, ending in suppurating lobular pneumonia. M. Pinard insists on the necessity of vertex presentations in these cases, and performs cephalic version in their absence.

The author considers the limits of each treatment to be as follows:

(a) When dilatation is complete, neither plugging or turning are sufficient; extraction is necessary.

(b) During dilatation both methods are applicable; but if the liquor amnii has escaped, version is difficult, and so it is if the placenta is central.

(c) Before dilatation, the tampon is the better method.

The author concludes that

1. Plugging, with antiseptic precautions, is no more fatal than bipolar version.

2. The fœtal mortality is less (48 per cent.) after plugging than after version (60 per cent.).

3. Plugging is much easier than version, and can be employed before labour begins.

Plugging is, therefore, the better method for the general run of cases.

The number of cases seems to us insufficient to upset the conclusions derived from the English method, as, at length, practised in Germany. We think that the displacement of bipolar version

by plugging, as the routine treatment in these cases, would be a distinct retrogression.

As regards the tampon, it can (in a way) be applied by any one. It is difficult to keep from putridity (the best way being by ointment of salicylic acid), and, if tried, is likely to postpone other treatment till too late. We are inclined, therefore, to recommend the English method of bipolar turning, without extraction, and to leave the children, whose lives are almost valueless in these cases, to take their chance, which, according to Dr. Lomer's paper, seems to be but little depreciated by inaction.

10. Avulsion of an inverted uterus after delivery.

Dr. Korner records a case of this description in the *Archiv für Gynäkologie* (Band. xxvi. s. 13). The patient was aged twenty-five, 1 para. She was attended by a midwife, and the labour was normal. Soon after the birth of the child the midwife noticed a tumour between the legs of the patient, which she did not recognise, and sent for a neighbouring doctor. She denies using traction on the cord, or violent pressure on the fundus uteri. On the doctor's arrival he found the patient in a condition which required energetic action. She had lost a quantity of blood, and was very collapsed. (The friends denied that the doctor even felt the pulse, and it is certain that he never ascertained the condition of the uterus by abdominal examination.) He set to work, and in about ten minutes of the greatest agony for the patient, tore away the tumour and the placenta with it. The intestines immediately prolapsed; he replaced these, told the friends that she had not many hours to live, and left the house. He then sent the preparation to Dr. Fehling as a fibroid adherent to the placenta, and with a request that it might be put in the museum. (!) On further examination the tumour was found to consist of the inverted uterus with the placenta loosely adherent, both tubes, and the left ovary. The state of the patient for the first two days was not desperate; there was repeated vomiting, suppression of urine, and absence of flatus per anum. On the second day, however, the intestines again prolapsed, and were replaced by the midwife. Dr. Fehling saw the patient, washed the vagina out with 1 in 50 carbolic solution, and packed it with iodoform gauze to keep up the intestines. There was some improvement for a time, but death followed on the eleventh day.

11. On post-partum avulsion of the uterus, with a case followed by recovery.

Mr. J. Hopkins Walters (*Obstetrical Transactions*, Vol. xxvi., 1884, p. 233) relates a case of this rare occurrence, and gives a most careful *résumé* of the cases on record.

The patient was aged twenty-two, and a 3 para. She had been attended by a midwife, who pulled at the cord and broke it. She then introduced her hand and tore away the whole of the uterus, the right ovary and Fallopian tube, portions of the round ligaments, left Fallopian tube, and ligament of the left ovary. A large quantity of the omentum was found protruding from the vulva through a large rent in the vagina. Twenty-one hours afterwards Mr. Walters tied and cut away the omentum, and cleansed the parts with permanganate of potash. The vaginal walls healed round the omental stump, and the patient completely recovered. The author has collected thirty-six cases with fourteen recoveries; of the thirty-six cases only three were certainly unpreceded by inversion. He draws an important distinction between the accidental removal of the previously inverted uterus and of the uterus which has not undergone inversion. The uterus may be detached more or less from the vagina by the process known as "spontaneous rupture," but this is never accompanied by inversion. Where the uterus is inverted it must have been torn away; where it is not inverted it may only have been removed after having torn itself away. Dr. Braxton Hicks thought that the uterus in Mr. Walters' case was already partly detached, and that the omentum had been pulled down through this by mistake for the placenta. He had known of this occurrence.

12. Ruptured uterus : recovery : subsequent pregnancies.

Dr. A. E. Aust Lawrence, in the *British Medical Journal* (Sept. 26, 1885), relates the case of a patient who had had five stillborn and one living child. Delivery in the last-mentioned case was effected by forceps rather before the full time. Owing to slight pelvic flattening it was decided to terminate the seventh pregnancy at the eighth month. Version was performed, but again, owing to the great difficulty in delivery, the child was stillborn. Accordingly, in the next pregnancy it was intended to induce labour at seven and a half months, but owing to a miscalculation on the part of the patient the operation was delayed till a month later. Labour pains then set in of their own accord after a severe dose of castor oil. The right hand and funis presented by the side of the head, and were pushed up. A binder was put on. Labour pains set in very violently for about two hours, then suddenly ceased, and the woman complained of tenderness over the whole abdomen, but only when touched; she had no symptoms of collapse or hæmorrhage. The hand and cord again prolapsed; the foetus was turned and delivery effected without difficulty, the only abnormality noticed being that, as the hand was passed

into the uterus, a slight rush of blood took place. Twenty minutes later the uterus was small and firmly contracted, the finger was introduced into the vagina to remove the placenta, and it was then found that the placenta had escaped into the abdomen through a rent running horizontally in the anterior wall of uterus at the junction of its lower and middle segments. It was also observed that the uterine walls were very thin. The placenta was removed through the rent. The intestines appear to have been kept out of the rent by a distended state of the bladder, a condition which was maintained subsequently. With the same object in view the hips were raised. Morphia was freely given, and the diet limited to milk and ice. The temperature was slightly raised from the third to the sixth day, but recovery was complete. Patient was up on the fourteenth day. There was a hard mass of cicatricial tissue in front of the uterus, and an aperture in the upper part of the vagina which ran up parallel to the cervix, and opened into it half an inch inside the os uteri. Subsequently the patient became pregnant, and was delivered at the end of seven and-a-half months of a child which lived only a few hours. She is now six months advanced in her tenth pregnancy.

Dr. Lawrence also mentions two other cases of rupture of uterus in which the collapse and shock, ordinarily present in such a grave condition, were conspicuous by their absence.

13. On thrombus of the vulva and vagina in relation to delivery.

Madame Sosanoff (*Annales de Gynécologie*, 1884, p. 447) gives an analysis of eighty-five cases of thrombus of the vulva and vagina occurring in connection with delivery. Of these, the thrombus formed during the first stage in three, or 3·5 per cent. ; in twenty-six, or 30·5 per cent., during the second stage ; in forty-two, or 49·4 per cent., after delivery in cases of simple pregnancy ; and in eleven, or 12·95 per cent., after delivery in cases of multiple pregnancy.

Thrombus occurs in one labour in 2,375, according to the joint statistics of Winckel, Hugenberger, Hecker, Spiegelberg, Charpentier, and the St. Petersburg Maternity.

The author specially discusses the influence of the production of thrombus on the course of labour in twin cases, and the proper treatment of such labours. For this, only five cases are available as having occurred in the interval between the birth of twins. In two of these cases the thrombus was incised in order to effect delivery, and in two operations were necessary to hasten delivery. Four of these five cases died ; one recovered.

The author concludes that thrombus is capable of offering a serious obstacle to delivery, and that an incision may be necessary.

The later the thrombus is opened or burst, the less the danger, and the later the incision is made, therefore, the better. But, as soon as there is the least sign of thrombus, delivery should be hastened, either by incision or by other appropriate measures.

14. On the anatomy and relations of the uterus during the third stage of labour and the first days of the puerperium.

Dr. Freeland Barbour (*Edinburgh Medical Journal*, Sept. and Oct., 1884) contributes some interesting observations on the mode of detachment of the placenta and membranes.

After a historical review of the literature of the anatomy of the membranes and interior of the uterus post partum, and of the separation and expulsion of the placenta, the author describes five specimens:—

1. Uterus with placenta and membranes undisturbed, from a case of Porro's operation.
2. Uterus with placenta *in situ*, and membranes partially separated, from a case of Porro's operation.
3. Uterus with placenta attached in part, from a case of abdominal section for hæmorrhage after labour.
4. Frozen section of pelvis, from a case that died from post-partum hæmorrhage one and-a-half hours after delivery.
5. Uterus from a patient who died of eclampsia forty hours after delivery.
6. Uterus from a patient who died of phthisis about two days after delivery.

The description is illustrated by diagrams, and beautiful coloured naked-eye and microscopical plates.

The deductions from the *first preparation* are that the membranes become detached along two planes, (1) the amnion separates itself from the chorion through the sub amniotic layer, being thrown into papilliform wrinkles, the apices of which are separated, while their bases remain attached; (2) the chorion and decidua are separated through the deeper or spongy layer of the decidua, by similar, but broader wrinkles, and less completely.

The deductions from *preparations 1 and 2 taken together* concern (1) the placenta, (2) the membranes, (3) the so-called uterine cavity. As regards the placenta, its site measured $4\frac{1}{2}$ inches by 4 inches, but in neither case was it separated, though, in the second case, strong contractions had persisted during twenty-four hours. In neither case had sub-placental hæmorrhage occurred. The author concludes that the placenta is separated not (1) by diminution of the placental site, nor (2) by hæmorrhage, but (3) by uterine contractions acting on it as a foreign body. As

regards the uterine cavity, this does not exist, the anterior and posterior walls being in apposition with the placenta, and the pressures are therefore equal in all directions, except downwards, in which direction the placenta is therefore moved. In both these cases it was attached to the posterior wall.

The *third preparation* shows the placenta to have been implanted on the fundus. It was detached from the uterine wall except at its upper extremity, which had produced a marked local inversion of the uterine wall. In this case a large sub-placental hæmorrhage had taken place; the patient had died of hæmorrhage. The membranes were not detached even at the sides of the placenta. The placenta, adhering by its edge, illustrates the fact that it is at the edge that cotyledons are most liable to adhere and be left behind. The partial inversion is probably a post-mortem occurrence, but uterine contractions may possibly have produced it [as in the case of a polypus].

As regards preparations 1, 2 and 3, taken together, the author concludes, (a) as regards *mechanism*, that while the *membranes are detached* in folds, as described above, they are *expelled* by being dragged after the placenta. That the *placenta* is not only *expelled*, but *detached* by the uterine contractions forcing it in the direction of least resistance. When it is situated on the front or back wall it is expelled edgewise, as described by Matthews Duncan. When it is situated on the fundus, a portion of its foetal aspect corresponds with the line of least resistance, and it may then be expelled foetal surface first, and folded on the maternal surface (Schultze), though the share taken by a sub-placental hæmatoma under these circumstances is unsettled in the absence of a specimen showing fundal implantation of the placenta. (b) as regards *management*, Credé's method imitates the natural mechanism of the detachment as well as of the expulsion of the placenta.

15. The management of the third stage of labour.

Dr. Simon Baruch (*American Jour. of Obstetrics*, April, 1885, p. 359, and May, 1885, p. 502) contributes a long and elaborate *résumé* of the whole question of the method of Credé, and the dispute which has occupied the last two years in Germany. The paper will be found useful to those who are in search of references.

16. The treatment of the third stage of labour.

Dr. Prockownik, of Hamburg (*Centralblatt für Gynäkologie*, 1885, No. 28, s. 433) recommends the following treatment:—

After the birth of the child the hand is laid on the abdomen to observe the uterus; after some minutes, gentle friction on the fundus is practised; when the third pain comes, the patient is

encouraged to bear down. If the placenta is not expelled a pain is missed, and the same procedure repeated at the fifth, and, if necessary, at the seventh pain. Seven pains generally occupy half an hour. If its expulsion is further delayed, the condition is considered pathological.

The author claims no originality for this treatment; he remarks on the great pain often produced by expression of the placenta.

17. On the cause and prevention of mercurial poisoning in obstetric irrigation of the uterus and vagina.

Dr. Otto von Herff (*Archiv für Gynäkologie*, Band xxv., s. 487) reviews the recorded cases, especially thirteen cases lately recorded in the *Centralblatt für Gynäkologie*, with four deaths.

Before giving up this antiseptic, which is the most trustworthy of all (as some have advised), the author prefers to see if some rules for its safer use may not be formulated.

Among the channels of absorption, the possibility of escape of the fluid into the peritoneal cavity, either through the tubes or through an injury to the uterus, as well as that of penetration into an open blood-vessel, must be considered.

He eliminates four of the cases (two of them fatal) on the following grounds: (1) Error on account of the use of calomel internally, and of mercurial ointment externally, which might have produced the poisoning; (2) Doubt whether the symptoms were mercurial; (3) A fatal case, in which the symptoms followed irrigation of the uterus on the fifth day so quickly that direct absorption through a vessel is probable; (4) A fatal case in which a simple syringe and catheter were used, and the symptoms began during the operation, making penetration of the tubes probable.

This leaves nine cases, two of them fatal, for consideration, and in them absorption probably took place through the mucous membranes. This power of absorption has been proved to be possessed by the uterus and vagina, but probably with great individual differences. In these nine cases the following observations may be made: (1) The solution was 1 in 1,000, *i.e.* the strongest solution used for this purpose; (2) In eight of the nine cases large quantities of fluid were used; (3) The irrigations were in most cases repeated several times a day, and for several days, before symptoms appeared.

The comparatively small number of cases of poisoning compared with the wide use of corrosive sublimate, as well as the fact that poisoning has generally occurred many days after its use was begun, seem to indicate that there must be some special cause for

the absorption. Idiosyncrasy will evidently not account for the latter of the above facts.

The author then considers the question of retention of some of the fluid for a long time in contact with the genital tract. He does not think the uterus is the usual seat of absorption, since the mercurial douche causes energetic contraction, and, moreover, tans the surface of the cavity, forming an insoluble albuminate. The uterine contraction acts both by obliterating the cavity and by constricting the vessels, both hæmic and lymphatic. In suitable cases of severe puerperal illness, therefore, even a solution of 1 in 1,000 should be unhesitatingly used. It is essential, however, that the fluid should be hot, and also that the hand should take care of the uterus as regards its contraction, and also as regards emptying the vagina by pressure.

As regards the vagina, irrigation produces contraction, especially of the constrictor vaginae and levator ani muscles, which are capable of damming up fluid within the lower and upper parts of the vagina, and have been observed so to act. This fact necessitates the providing of a free exit for the fluid, which may be done by a finger of the hand which holds the vaginal tube. The author cites an interesting case of his own, in which he used 4 per cent. carbolic douches (1 in 25); when the vagina was thoroughly emptied, the urine next day was clear; when it was not thoroughly emptied, the urine next day was black. He rightly remarks that there was marked idiosyncrasy as regards carbolic absorption.

He puts forward the following conclusions :—

1. The vagina is capable under some conditions of retaining a considerable quantity of fluid.

2. The vagina is the usual seat of absorption.

3. It only absorbs when the fluid remains a considerable time in contact with it. Therefore the absorption does not take place actually during irrigation.

4. The fact that in two cases vaginal injections only were used strengthens conclusion 2.

5. The passage of fluid into the peritoneal cavity or into the blood-vessels (in consequence of closure of the vagina and increased intra-vaginal pressure) is possible under peculiar conditions, such as dilatation of the tubes, but improper injection is probably also to blame.

6. Free escape of the fluid is absolutely necessary.

He then discusses the strength of the solution. The researches of Koch, Sattler, and others, have shown that chlorine water and corrosive sublimate are by far the most powerful antiseptics; that

corrosive sublimate in a strength of 1 in 1,000, or 1 in 2,000, destroys the development of germs in one minute; and that a solution of 1 in 3,000 does the same in three minutes. The same is true as regards the destruction of the reproductive power in germs under their most flourishing conditions. Chlorine water and sublimate lotion, 1 in 5,000, produce nearly equal results. Carbolic acid is not trustworthy in less than 1 in 20 strength.

This proves the strength of 1 in 5,000 quite enough for ordinary purposes, but for special purposes (such as rapid disinfection) it is quite proper to use 1 in 1,000, with due care.

In patients who are anæmic, very weak, or have their kidneys affected, great care must be exercised, as they are probably more susceptible. The same is true as regards those who are taking or have taken a mercurial course.

As regards quantity, very large quantities are unnecessary, one or two litres being quite enough.

The author recommends, in conclusion, the following antiseptic treatment:—

1. Careful disinfection of doctor, midwife, and nurse.
2. Careful cleansing of the genitals with weak sublimate solution, or even cutting the pubic hair.
3. In normal labours, prophylactic vaginal douches are not necessary during the course of labour. If the midwife is suspected of being septic, or the discharges become offensive during tedious labour, irrigation with 1 in 3,000, or 1 in 5,000, is indicated.
4. After normal labours these irrigations are also unnecessary, but the uterus should be washed out with 1 in 3,000 or 1 in 5,000 after intra-uterine operations, or if decomposition arises during labour, or after the birth of putrid or macerated children, etc.
5. During lying-in, which proceeds naturally and follows normal delivery, irrigations are unnecessary, and may be hurtful. If they are considered indispensable it is better to use them immediately after labour, as this is the time that infection is most likely. In puerperal diseases they should be used in stronger or weaker solutions unhesitatingly.
6. The stronger solutions, *e.g.* 1 in 1,000, should only be used either in the uterus or vagina when seriously indicated.
7. In all sublimate irrigation, whether of weak or strong solutions, the following rules should be rigidly followed:—
 1. Only small quantities—at most two litres—should be used.
 2. The irrigation should be as quick as possible.
 3. Free escape should be provided for.

4. In atony of the uterus, and where there are large wounds of the genital passages; in the case of patients who are anæmic or suffer from renal affections, they are contra-indicated; and in the case of those who have had mercurial treatment must be used with caution.

5. Stronger solutions and intra-uterine irrigations should be used only by the doctor.

6. A continuous stream (such as that produced by gravitation) should alone be used; the height should not exceed some two feet.

Instruments should be scrupulously clean.

Chlorine water deserves more extended trial.

18. The use of corrosive sublimate.

Dr. Keller (*Archiv für Gynäkologie*, Band. xxvi., s. 107) contributes some interesting observations on the character of the urine during the use of corrosive sublimate.

In the hospital at Bern the following are briefly the rules on this point:—1. In the case of a pregnant or labouring woman a douche of half a litre of 1 in 2,000 is used, and one litre of a similar solution is used once after delivery. 2. After operations and tedious labours, when frequent examinations have been made, and after the birth of macerated children, an intra-uterine douche of two or three litres of 1 in 1,000 is used. 3. During the lying-in period irrigation is not used unless the lochia are offensive. The strength is 1 in 2,000. 4. Intra-uterine irrigation is only used during the lying-in period in case of high fever, offensive discharge, and after intra-uterine manipulation.

Between January 10, 1884, and January 10, 1885, 321 women were delivered according to the above rules.

In all a douche of 1 in 2,000 was given.

In 53 cases intra-uterine injections were given after delivery.

In three an intra-uterine injection of 1 in 1,000 solution was given during the lying-in period.

During the whole time no severe case of infection occurred; very seldom pyrexia which could be attributed to pelvic causes.

As regards mercurial poisoning, only in two cases was stomatitis, with salivation, observed; there was besides one doubtful case in which gingivitis was attributed to carious teeth.

Dysenteric diarrhœa (with blood) was entirely absent, but in one case there was pretty copious and offensive diarrhœa without blood. Two cases of slight collapse could not be, with certainty, attributed to the mercury; in one there was great anæmia after post partum hæmorrhage; in the other there was a large thyroid,

which impeded respiration. Subnormal temperatures were never observed.

The author attributes this absence of symptoms to the care exercised in using moderate quantities, of moderate strength, and in the case of intra-uterine injections, carefully watching the uterus and securing firm contraction.

The author examined the urine for mercury in cases in which intra-uterine injections had been used, and in cases where strong solutions and large quantities had been employed. He remarks that it is always to be found in the urine after inunction and after internal administration, but had not previously been found after its use as a disinfectant. In one case of the former class it had been found fifty days after the cessation of its use.

Twenty-six observations were made in eighteen patients, and in twelve separate patients (66·6 per cent.) mercury was found in the urine. Of sixteen women who had had intra-uterine injections, mercury was found in eleven. In two women the irrigations had only been vaginal, and in one of these mercury was found. Before delivery, that is when the vaginal mucous membrane was intact, no mercury appeared in the urine.

When mercury was present in the urine, there was almost invariably albumen also.

19. Against the excessive use of corrosive sublimate in midwifery.

Dr. Winter (*Centralblatt für Gynäkologie*, 1884, No. 43, s. 677) refers to four fatal cases recorded in eighteen months, most of them following the intra-uterine use of 1 in 1,000 solution. Since these were published the intra-uterine use of solutions of this strength has been entirely discarded in Berlin, the strength being reduced to 1 in 5,000 (which Koch has shown to be capable of destroying the spores of anthrax in a few minutes) in cases where the uterine cavity has been manipulated. The results have not suffered, and no case of poisoning has occurred. Indeed, the 110 last cases were delivered without any vaginal douches, and with the best results.

The author concludes that vaginal douches during and after delivery are unnecessary, except in cases of prolonged labour or decomposition of the discharges.

20. On the use of weak mercurial solutions in midwifery.

Dr. Leopold (*Centralblatt für Gynäkologie*, 1884, No. 46, s. 721) speaks in favour of moderation in the use of corrosive sublimate. His principles are that 1 in 1,000 solution is necessary for vaginal or uterine irrigation only when the secretions are decomposed ;

in all other cases 1 in 4,000 is sufficient for vaginal irrigation, and 1 in 2,000 for the uterine cavity after intra-uterine manipulation. Each patient before labour is carefully washed, the pubic hair cut short, the genitals carefully soaped, dried, and washed with 1 in 4,000 solution, and a douche of 1 in 4,000 given. She is examined by five or ten persons, and as often as is necessary. The greatest stress is laid on disinfection of the hands. After delivery a douche of 1 in 4,000 is given, and an intra-uterine douche of 1 litre of 1 in 2,000 only after intra-uterine manipulation. Vaginal douches during the lying-in period are used only in cases where the discharges are offensive. The temperature is taken night and morning; in cases of fever it is taken every three hours. The labour, lying-in, and gynæcological departments are isolated, the same assistants not serving in more than one at the same time. Of 600 patients treated thus none died of infection, though 7 per cent. were operation cases, including many which were severe. Only nine, or 1.5 per cent., had a morbid lying-in.

The author concludes that solutions of 1 in 4,000 to 1 in 2,000 are quite strong enough, 1 in 1,000 should be reserved for the hands, but never used for injections.

21. On corrosive sublimate injections.

Dr. W. L. Richardson read a paper on this subject at the Obstetrical Society of Boston on Feb. 14, 1885 (*Boston Medical and Surgical Journal*, April 30, 1885, p. 413). Three cases of mercurial poisoning, none of them fatal, are recorded.

Case 1.—Intra-uterine douche of 1 in 2,500 was given on the day of delivery, and repeated next day. On the third day 5 grains of calomel were given on account of bilious vomiting, as well as a third intra-uterine douche. On the fifth day stomatitis, which soon yielded to treatment.

Case 2.—Vaginal douches of 1 in 2,000, night and morning, for the first eight days; then three intra-uterine douches of the same. On the seventh day the gums became spongy, but soon recovered on suspension of the douches, and simple treatment.

Case 3.—Vaginal douches of 1 in 2,000 night and morning, and two intra-uterine douches of the same strength. On the fourth day the gums became spongy, and on the fifth day the tongue became sore. On the ninth day the breath was "characteristic" in smell. This soon yielded on replacing the corrosive sublimate by carbolic acid and the use of astringents.

Two other cases are mentioned in which vaginal injections of 1 in 2,000 were given twice a day, and were followed (it is not said how soon) by salivation. Reference is also made to several other cases, without details.

It will be observed that the irrigation in all the three cases was *intra-uterine* and *repeated*.

22. On the prevention of lying-in fever.

Dr. Sutugin (*Edinburgh Medical Journal*, March, 1885, p. 781, and June, 1885, p. 1,091) reviews this large and important subject at great length and with many references, which will be found useful by those who are specially studying the question.

23. On the nature and prevention of the graver fevers of childbed.

Dr. Neville (*Dublin Medical Journal*, 1884, Vol. lxxviii.) publishes an essay read before the Academy of Medicine. After referring to the fact that Dr. Churchill, in 1849, described puerperal fever as a disease against which preventive measures and treatment were generally useless, that the same author considered the occurrence of the epidemic "form of the fever occurring in one person's practice as singular and inexplicable," and that Dr. Meigs attributed every outbreak to "accident or Providence," the author discusses its nature and nomenclature. He prefers the term "puerperal fevers" to metria (a new word which means no more), and to "septicæmia," which includes only one or some of the puerperal fevers. These include (1) the presence of one of the exanthemata modified by and modifying the general and local concomitant conditions; (2) simple traumatic or localised inflammation, unaccompanied by the graver symptoms of systemic poisoning; (3) systemic poisoning which has its origin within the body, and results from the retention within it of excrementitious products which are not eliminated by the usual excretory channels—a purely endogenetic toxæmia, or self-empoisonment; (4) systemic poisoning which originates from some focus of absorption or infection along the genital tract, including (*a*) septic poisoning or absorption, (*b*) septic infection, and other wound-infective diseases—*e.g.*, erysipelatous and diphtheritic.

Classes 3 and 4 are often inextricably intermixed, and "puerperal fever" is rarely due to one cause only.

He then discusses the subject of "epidemics," referring to Dr. Churchill's "Historical Sketch of Epidemics of Puerperal Fever," published by the Sydenham Society in 1849, and embracing the records of years 1746 to 1846, which clearly showed (1) that each epidemic was limited to a district, and (2) that more than three-quarters of the entire number consisted of hospital outbreaks. He then criticises Dr. Fordyce Barker's remarks in the discussion at New York, which we reviewed in last year's Year-Book, and cites Dr. Gordon, who, in an essay published in 1795, gave the history of an epidemic in Aberdeen, and stated plainly that he

or the nurse had carried the disease to a great number of women. He answers the question of the connection of puerperal fever with epidemic influences and that of a specific puerperal fever in the negative. This latter question appeared also in the remarks by Dr. Fordyce Barker before alluded to. The author also mentions the supposed connection between erysipelas and puerperal fever. (Against this connection the recent observations of Gusserow, in the *Archiv für Gynäkologie*, Band xxv., based on clinical, pathological, and experimental facts, as well as the coincidence of the two diseases in the same patient, appear to tell with much force.) He then asks the question whether the poison of puerperal fever can be absorbed by the lungs, and states his opinion that this is not its mode of absorption, though foul air may be a predisposing cause. The author thinks "septicæmia" a not sufficiently comprehensive term; this will be seen from the table given on the preceding page. In discussing the question of "autogenetic" puerperal fever, the author says, "septic organisms (*e.g.* *Bacterium termo*) are not infective." This statement seems to us misleading; it would be more correct to say, "the kind of micro-organisms which produce putrid intoxication, sapræmia, 'autogenetic' infection, do not multiply in the tissues." As regards the "traumato-infective fevers," *i.e.* the ordinary blood-poisoning, the author states his belief that inoculation occurs most often during labour, and often with the first vaginal examination. He believes that each variety has probably its own micrococcus, but states the fact that direct experiment as regards women has not hitherto resulted in the identification of the special micrococci. He then criticises the regulations of Dr. Macan in his management of the Rotunda Hospital, especially that regulation forbidding students who are dissecting from attendance at the Rotunda Hospital. He thinks that this should be supplemented by a rule forbidding attendance to those who are acting as "dressers" in the surgical wards, post-mortem room, and general medical wards.

The paper ends with a discussion of antiseptic rules and directions to nurses which are too long to be quoted, but include the use of carbolised vaseline for lubrication, carbolic solution 1 in 20 for metallic instruments, and solution of corrosive sublimate, 1 in 2,000, for the hands and genitals; irrigation before delivery with solution of corrosive sublimate (1 in 4,000), and after when necessary; the sponging of the nates, vulva, and adjacent parts after delivery with corrosive sublimate solution (1 in 2,000). Intra-uterine irrigation is only indicated after version, removal of the placenta or membranes by the hand in the uterus, the birth

of a putrid foetus, etc. In this case the strength should be 1 in 4,000. Regular vaginal douches after ordinary labour, and still more intra-uterine irrigation is not approved except when specially indicated; vaginal irrigation should always precede intra-uterine irrigation.

As already remarked, a distinction between "fevers during childbed" and "childbed fever" needs to be drawn at the outset. A woman may, of course, have *any* fever (or other disease) during childbed, but this is not "childbed fever." This term, if it means anything, means one or other (or several) of the different forms of blood-poisoning. In our opinion, Dr. Neville's list should be modified as follows: 1 and 2 should be omitted; a differential diagnosis requires to be made between these and "childbed fever." 3 should be omitted as, practically, non-existent. 4 *b* should not include erysipelas and diphtheria, which properly belong to No. 1.

DISEASES OF THE SKIN.

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1. Treatment of lupus vulgaris.

Dr. Ernest Besnier (*Ann. de Dermat. et de Syph.*, Tome vi., No. 1, Jan. 25, 1885) gives the following as his conclusions:—

1. Particular cases require particular treatment, according to kind, variety, seat, extent, and depth.

2. All processes, mechanically or chemically, destructive of lupous elements, or which cause an exudative or eliminatory “phlegmasie,” are curative.

3. Bleeding methods—whatever opinion is held about tuberculous auto-infection in lupus—are unnecessary. Various other measures give equally good results.

4. Most convenient is interstitial cauterisation by galvano- or thermo-cautery. It is applicable by itself to lupus in conjunctiva, nasal cavities, bucco-pharyngeal, etc. It is the easiest and surest method in reparative surgery in old lupous patients.

5. In old standing and very extensive lupus, recourse should be had to suppurative dermatitis, induced according to Professor Schwimmer's method—pyrogallie acid, either as a pomade or in ether. Lupous surfaces are sponged with a saturated solution of pyrogallie in ether, or sprayed therewith. The surface becomes covered with a white and adherent surface of pyrogallie acid, which is immediately covered with a layer of traumaticine or liq. gutta-perchæ. Irritation akin to vesication is produced. The resulting cicatrix is soft. The spongings or sprayings are renewed till the lupous focus has disappeared. This is claimed as the most simple and expeditious means, and the least painful. The lupus of Willan is most suitable for this mode of treatment.

Professor Pick (*Wien. med. Presse*, No. 49, 1884) recommends galvano-cautery, his theory being to scar the tissue, and produce a fibroid connective tissue, poor in cellules, and containing

few blood vessels, which he considers inimical to the vegetation of the lupus bacillus.

Dr. W. G. Smith, of Dublin, endorses (*Dub. Med. Journal*, Feb., 1885) Neisser's recommendation of the pyrogallic acid treatment.

Dr. G. H. Fox of New York (*Journal Cut. and Venereal Dis.*, March, 1885) after recounting the various existing methods of treating lupus, states that he has had satisfactory results with two dental instruments—the one the burr, a steel bulb, with coarse or fine threads, used for boring hollow teeth, and decidedly better than the curette for small isolated nodules of lupus; the other, a hooked instrument—of service when the greater part of the lupus tissue has been destroyed, and there is nothing remaining but small brownish red points of a pin's head size. The instruments are fitted in a handle with a spiral, which makes it easily revolve in the fingers.

Dr. Lesser (*Leipzig med. Gesellschaft*, Feb. 24, 1885, and *Med. Chronicle*, June, 1885), relying on tubercular theory, has treated five cases with sub-cutaneous injections of Fowler's solution diluted with same or double quantity of water—beginning with 3 drops and rising to 30 minims per diem—or arsenious acid was given in pill form beginning with 1 mgrm. ($\frac{1}{60}$ grain) and gradually rising to 20—36 mgrms. Of five patients who remained sufficiently long under treatment to give decisive results, one showed no effect whatever; in the others, a most remarkable absorption of lupus tissue took place, beginning in the second month and progressing steadily until the lupus tissue was almost completely absorbed. But the absorption even under the continued use of the drug is never complete. Arsenic is therefore merely recommended as a useful adjunct to other local measures.

Dr. Quos, of Bonn (*Ann. de Dermat.*, Tome vi., No. 4, April, 1885, p. 229), in his Thesis, 1884, reviews the three methods of local treatment by chemical, thermal, and mechanical agencies, and adopting the latter, lays down that the indications are not merely to stop cell proliferation, but also to kill or prevent the development of micro-organisms. The method of treatment is that of Dr. Doutrelepon. It consists in steeping several thicknesses of compress in a solution of sublimate, 1 to 1,000, applying it to the affected parts, and covering the whole with gutta-percha tissue. The dressing is renewed sufficiently often to keep it always damp.

For the eyelids he uses this pomade:—

Hydrarg bichlor	...	...	1 gramme.
Ether sulph.	...	...	q. s. ut fiat solutio.
Add slowly,			
Vaseline (yellow)	...	...	100 grammes.

For extensive lupous patches of mucous membranes, on the lips, mouth, and nose, interstitial injections with Pravaz syringe (caoutchouc piston) 1 per cent. solution of sublimate.

He speaks highly of this treatment as very successful.

There is no great change to note in the treatment of this disease since last year. I have tried Dr. Fox's method of erosion with the American dental drill with some success. It is suitable for the destruction of small isolated nodules. Dr. Lesser's report on the sub-cutaneous injection of arsenic is interesting, and quite worth a trial.

2. Lupus erythematodes.

Lassar (*Berl. Klin. Wochenschr.*, 1885, No. 2) reports six cases in which he has applied Paquelin's cautery lightly over the affected spots, with complete cure as the result.

Mr. Hutchinson (*British Medical Journal*, March 14, 1885) relates a case of a gentleman who was cured by taking $\mathfrak{m}\mathfrak{v}$. of liq. arsenicalis three times a day for two years, and suggests a more extended trial. No local application was used.

3. The rational treatment of furuncle.

M. Gingeot (*Bull. Gén. de Thérap.*, Jan., Feb., and March, 1885), acting on the parasitic hypothesis, considers incision (unless fluctuation is very marked) useless—nay, injurious, as tending to diffuse germs. When it is practised germicide dressings should be employed. Poultices he considers useless, and baths, though calming the pain for a time, leave it worse than before. Local depletion he also considers useless.

He recommends the treatment already proposed by M. Boinet, viz., painting tinct. iodi. round the boil on the sound tissues in successive layers until a deep brown stain results. All cutaneous lesions (pemphigus, ecthyma, etc.) developed in furunculous patients to be painted round in the same way. On the face camphorated alcohol may be substituted for tinct. iodi. When furuncles are opened borated dressings should be employed. Internally, purgatives to be rejected as weakening. Alkaline and arsenical treatment may be useful in dyspeptic or patients of lithic or glycosuric diatheses. But the treatment *par excellence* is the treatment by sulphides, as recommended by Ringer.

The general principle laid down in this paper is a sound one. I have adopted much the same plan, using strong carbolic acid, as recommended for acne by Dr. Walter Smith, of Dublin, in the place of tinct. iodi. Sulphide of calcium, as ordered by Dr. Ringer, ought always to be used, as it is sometimes most effective in its action.

4. Treatment of carbuncle.

Dr. Bulkley, of New York (*Journ. Amer. Med. Assoc.*, May, 1885) recommends that the carbuncle should be covered with a piece of lint, on which is spread the following salve:—Extract ergotæ, 8 parts; zinci oxydi, 4 parts; unguent simplicis, 20 parts. Internally he gives calcium sulphide and magnesia, and also iron and dilute sulphuric acid.

5. Eczema.

Burckhardt (*Monat. f. Prakt. Derm.*, No. 2, 1885) gives the result of his treatment of pustular eczema on the face, head, and eyelids. He recommends that after all crusts are carefully removed, the parts should be painted with a 3 per cent. solution of nitrate of silver, at first daily, afterwards on every second day. The healing process is assisted by the application of the following ointment:—Vaseline, 10 parts; oil of cade, 1·5 parts; oxide of zinci, 2·0 parts.

Stelwagon (*Monat. f. Prakt. Derm.*, April, 1885) sops the parts with black wash, and applies R zinci oleinici, acidi oleinici āā 1·0 vaseline, ung. simplicis āā 3·0, but where there is much inflammation, he uses R zinci oleinici, bismuthi oleinici āā 2·0, cremoris frigididi 4·0.

6. Eczema of spinners and weavers.

M. Leloir (*Annales de Dermatologie*, March, 1885) describes this disease. The hands are the parts attacked; the condition is symmetrical, though the left hand appears to be affected more than the right. The inner surface of the thumb, the outer and palmar surface of the index finger, and the ulnar and palmar border of the hand and little finger are the parts chiefly diseased. The disease may invade the whole extent of the hand. It is an eczema, and may assume various forms, from the erythematous to the papular, vesicular, pustular, and squamous varieties. Itching is always present, but varies in intensity. The fingers and hands are also frequently stiff and difficult to move. The affection is said to be confined to those artisans who work in wet flax. The water in the material becomes saturated with various impurities, which act as irritants on the macerated epidermis. The treatment consists in leaving off the work for a time and using the ordinary means to abate the eczema. The water in which the flax is worked should be renewed as often as possible. The hands should be smeared with glycerine whilst the weavers are at work. Ordinary hygienic measures as to washing and drying the hands are all-important.

7. Skin diseases resulting from venous stagnation in the lower leg and their treatment.

Dr. Unna (*Deutsch. Med. Zeitung*, 1885) speaks of the chronicity

of certain skin diseases in the lower limb due to venous stagnation. The treatment by Martin's bandages and other methods is discussed. In their place he recommends that the limb be bandaged from below by a double-headed muslin bandage, sound portions of skin being previously painted with gum, dextrine paste, or zinc gelatine, bandage rolls crossed at each turn of front of leg, whereby elastic tension is attained. Pastes, etc., dry and form solid and comfortable support. Any dressing for ulcers eczema, etc., may be applied beforehand, and renewed daily, weekly, or at longer intervals. This form of support, being cheap and easily replaced, need not be protected from actions of grease and lotions, and so does not confine heat and sweat.

8. Psoriasis.

Prof. Haslund reports (*Hospitals Tijende*, Nos. 8 to 10, 1884) ten cases of psoriasis treated by potass. iodid., 120 to 660 grains daily, in divided doses. Six successful cases were cured in from 36 to 70 days. One left improved; three were unaffected.

Dr. Fox showed, at the Dermatological of New York (*Journ. of Cut. and Ven. Diseases*, Vol. iii., No. 5) a case of universal psoriasis in a child eight years old, treated successfully by a two per cent. solution of salicylic acid in castor oil.

In some cases of psoriasis, associated with gout or rheumatism, relief is obtained from doses of iodide of potassium, when arsenic, antimony, and other drugs have failed. It is doubtful whether so great a success as Prof. Haslund reports would result in ten cases of psoriasis not specially selected.

9. Ringworm of the scalp.

Dr. W. T. Alexander (*Journ. Cut. and Ven. Dis.*, Feb., 1885) records the stopping of an epidemic of ringworm of some standing in a school after epilation, corrosive sublimate, sulphur, isolation, hygienic arrangements, had all been carefully attended to.

The plan adopted was painting the patches with a solution of chrysarobin, 10 per cent., in liq. gutta-perchæ, after shaving, washing, and epilation. The application was renewed twice or thrice a week. The result was most satisfactory, the disease rapidly dying out.

The principle of this treatment is :—

1. Isolation of patches of skin.
2. Exclusion of oxygen from fungus.
3. Parasiticide effect of chrysarobin.

About sixty patients were successfully treated during this epidemic.

Dr. Alder Smith (*British Medical Journal*, Nov. 1, 1884)

recommends chrysophanic acid dissolved in chloroform (gr. vii. to ʒi.) as the most efficient treatment he has used.

Dr James Foulis (*British Medical Journal*, March 14, 1885) recommends shaving the patches, washing the head well with warm water, then pouring on oil of turpentine and rubbing well in till it "nips." The head is then to be washed with 10 per cent. carbolic soap, and finally the patches painted with tincture of iodine.

Dr. Payne (*British Medical Journal*, May 23, 1885) considers eucalyptus oil in the proportion of one ounce to paraffin two ounces and vaseline two ounces efficacious in early cases, but does not class it among the most powerful remedies.

Dr. Harrison (*British Medical Journal*, Aug., 1885) uses two solutions:—1. Gr. ij. potass. iodid. to each ounce of liq. potassæ. 2. Perchloride of mercury, gr. iii. ; spirits ether nit., ʒi. The hair is cropped short, and No. 1 applied to affected parts, followed in a few minutes by the application of No. 2. He reports most favourably of this method.

Dr. Stelwagon (*Monat. f. Prakt. Derm.*, April, 1885) orders R. hydrarg. oleinici, picis liquid āā 2·0, ung. sulph. 4·0, in small quantities, to be applied twice daily to the patches on the head. The scalp is to be washed seldom.

Dr. Rabitsch (*London Med. Record*, May, 1885). A case is recorded of tinea tonsurans affecting forehead, scalp, ears, and nape of neck. The scalp was soaked in glycerine, and the whole body washed with soft soap. The patches were then painted with a 10 per cent. alcoholic solution of salicylic acid. In fifteen days the disease was cured, and there was no recurrence.

It is very doubtful whether chrysophanic acid acts as a direct parasiticide. It probably destroys the fungus by causing inflammation in the follicle. The plan suggested by Dr. Alexander has been successful in my hands in certain chronic cases. Dr. Harrison's new method is ingenious. I have found it necessary to dilute the liquor potassæ, to prevent the development of artificial kerion.

A 10 per cent. alcoholic solution of salicylic acid is one of the best applications for uninfamed ringworm of the scalp.

10. Antimony in skin diseases.

Dr. Spender, of Bath, records (*Pract.*, March, 1885) a case of psoriasis guttata, which passed through phases comparable to lichen agrius and pityriasis rubra, treated by absolute rest, aperient salines and diuretics, and subsequently by 15 minims of vin. antim. tart., 15 grs. potass. acetat., t. lavand. co. and sp. chloroform, every two hours, from 8 a.m. to 10 p.m., i.e. 8 doses. This treatment was repeated twice, and the intervals were subsequently increased.

Eighteen days after commencing treatment patient was able to return home, and fourteen months after remained quite well.

I have elsewhere called attention to the powerful alterative action of antimony in chronic skin affections. I am sure the use of the drug in this relation is not appreciated sufficiently. It should be tried in psoriasis when arsenic fails.

11. Internal use of turpentine in skin diseases.

Dr. Crocker records (*Pract.*, March, 1885) a case of general psoriasis of six years' standing, treated by $\mathfrak{m}\mathfrak{x}$. of turpentine in mucilage, increased to $\mathfrak{m}\mathfrak{xv}$. three times a day, and subsequently to $\mathfrak{m}\mathfrak{xx}$.

The first improvement was noted about a fortnight afterwards. The turpentine was gradually increased up to $\mathfrak{m}\mathfrak{lxxv}$. doses, when blood appearing in urine it had to be reduced to $\mathfrak{m}\mathfrak{l}$. Cure was not quite complete.

In thirty cases it was used with considerable success. In eczema Dr. Crocker has also used it, but advises its restriction to cases where the general health is unimpaired.

At Dr. Crocker's request, Mr. Gould gave it in two cases of cancer, both patients experiencing relief from pain. Dr. Crocker considers turpentine contra-indicated in children under five years, and in cases of unsound kidneys, irritable bladders, dyspepsia, and gout.

12. Lactic acid as a destroyer of pathogenic tissues.

Dr. Mosetig Moorhof (*Centrabl. f. Chirurg.*, No. 12, 1885) protects the tissue surrounding fungous growths in lupus vulgaris and superficial epithelioma with a bees'-wax plaster, and having saturated a piece of linen or cotton wool, the size of the affected area, in a concentrated solution of lactic acid, it is laid on and kept in place with a bandage. The dressing is removed in twelve hours, and the surface cleansed, when the morbid tissue is found dissolved into a pulp. For twenty-four or forty-eight hours it is dressed with water, after which the acid is again applied. Six or seven applications, with a day or two's interval, are required. It is painless, and well borne by children.

13. Nerve stretching in lepra anæsthetica.

Mr. Arthur Neve records (*Ed. Med. Journ.*, Nov., 1885) 190 cases of nerve stretching performed on 90 lepers, 84 improved and recovered sensation, 2 did not improve, 4 died. The sciatic nerve was exposed by a simple vertical incision, $1\frac{1}{2}$ in. long, midway between tuber ischii and great trochanter, the finger inserted, the nerve separated from its adhesions, and stretched.

14. The spray in skin diseases.

Dr. Hardaway (*Journ. Cut. and Ven. Dis.*, Vol. iii., No. 4)

speaks highly of the spray as a means of treating diffused skin diseases, and in those with itching and unbroken cuticle, *e.g.* pruritus, urticaria, papular eczema, etc. Solutions of carbolic acid, zinc sulphate, *grindelia robusta*, thymol, liq. picis alkalina, "fluid cosmoline," etc., may be thus used.

15. Resorcin in skin diseases.

Cattani (*Monatschrift f. Praktische Dermatol.*, 1884, Nos. 9 and 10, 1884) gives his opinion, after an extended experience, of resorcin in various skin affections. He finds it of exceeding efficacy in erysipelas. The drug is applied locally in 2 to 3 per cent. solution by means of a brush, every two to three hours, and in severe cases compresses dipped in the solution may also be applied. Under its influence the redness and swelling rapidly subside, and the pain is relieved. When there is much fever the resorcin may be given internally in doses of 15 grains or more every one or two hours, either as powder, or dissolved in barley water or red wine.

The drug also proved itself of great use in eczema impetiginosum of the head and face, when used as an ointment of vaseline containing 10 to 20 per cent. of resorcin. The crusts disappear quickly; but if accidentally rubbed off, and the surface left raw and bleeding, the ointment should again be applied, when new and healthy skin will be formed.

In one case of epithelioma, in which Cattani tried the resorcin ointment, the progress of the disease seemed to be stayed, and the pain relieved, but the further progress of the case was unknown.

On the other hand, in bed sores, and in the sloughing vulvo-vaginal wounds after labour, resorcin was of no avail. When, however, the latter wounds presented a diphtheritic character, improvement ensued from the use of resorcin, in a solution not weaker than 10 per cent.

Andeer (*Monatschrift f. Praktische Dermatol.*, No. 12, 1884) reports a case of congenital ichthyosis, which disappeared in eight days under the use of a resorcin salve, 3 per cent. in strength, for the parts least affected, and 5 to 20 per cent. for those more advanced in the disorder. The general condition of the patient improved at the same time.

16. Modus operandi of baths.

Schott (*Berlin. Gesellsch. f. Heilkunde*, March, 1885; *Medical Chronicle*, June, 1885) has made a series of experiments to explain the action of medicated baths on the system. The idea that the medicaments are absorbed and produce their therapeutical constitutional effects, is discarded in favour of a theory of

nerve reflex. It has been proved by Clemens that salts can be recovered from the skin after a limb has been soaked in a brine solution and washed in distilled water. The outer layers of skin are, therefore, permeable to salt solutions. Langerhans and Eberth have shown the rete malpighii to be penetrated by terminal nerve filaments, which are therefore exposed to action of salts so imbibed, and capable of influencing, by nerve reflexes, deeper and more vital organs.

17. Topical applications.

Dr. Brooke, of Manchester, considers (*Med. Chron.*, Oct., 1885) the advantages of local applications in skin diseases, and speaks highly of "salve mulls," introduced by Unna. These are thick ointments made with a basis of benzoated suet and lard spread either on one or both sides of a length of mull (undressed muslin) and cut off and used as plasters. Gutta-percha plasters, also introduced by Unna, are commended in chronic cases. They are made of gutta-percha faced with some adhesive material (as aluminium oleate or vaseline with 2 per cent. pure gutta-percha), containing the desired medicaments and backed with muslin. They prevent evaporation, staining of linen, and, by causing maceration of skin, increase the absorption of the drug.

To obviate the difficulty of expense, Dr. Brooke has medicaments made up with a stiff basis of wax, cocoa-butter, and oil, and cast into the form of a cosmetic stick. This when rubbed in leaves a layer, and yet is not soft enough to run. On the body, it may be secured by placing over anointed spots a piece of Mather's surgeons' adhesive rubber plaster with gutta-percha back, which adheres at once without heat, and prevents permeation of drugs.

A cheap gutta-percha plaster may be formed by affixing a piece of gutta-percha tissue to one side of a piece of thin smooth paper permeated with gum water. Not being very flexible, however, it has to be replaced by plaster or bandages at the joints.

A creamy emulsion of equal parts of almond oil and gum water forms a good basis for the administration of medicaments, as it soon dries, leaving an almost invisible coating. 15 per cent. to 20 per cent. solution of salicylic acid therein is very useful in chronic eczema, and it almost completely cured a case of verrucose lupus of back of hand without any other medication whatever.

Dr. Brooke adds gum to the gelatine and glycerine in the medicate gelato-glycerines introduced by Pick and recommended by Unna and others. They are then found to adhere well and remain flexible. For collodions, he recommends medicated *flexile* collodion, and he also speaks highly of an ethereal and alcoholic

tincture of tar which penetrates deeply and dries rapidly. It may also be medicated.

18. Treatment of skin diseases by Unna's salve and gutta-percha mulls.

Janowsky (*Monatschrift f. Praktische Dermatol.*, Oct., Nov., Dec., 1884) gives a long and valuable account of his experience, during four years, of Unna's salves and plasters, spread on "mull." These were introduced by Unna in 1880 (*Berlin. Klin. Wochenschr.*, No. 35) with the object of maintaining a constant application of the remedy to the diseased part, and of excluding the external air.

The simplest of these—the gutta-percha paste mull—Janowsky has found of great use in keeping on other dressings and in fixing drain tubes, where the bandages were either useless or inconvenient. It presents the advantage over other plasters of not irritating the skin, and it is also of use as a curative agent where maceration of the epidermis is desirable, as in some forms of eczema and psoriasis, and in obstinate papular syphilide.

Of the salicylic plaster mulls, Janowsky uses two strengths, 10 per cent. and 20 per cent. These are of special use for removing layers of thickened epithelium, as in chronic eczema, etc. Janowsky has obtained excellent results from them in lupus, the plaster seeming to stimulate cicatrisation in the diseased parts. For chronic eczema, a modification—the salicylsaponate plaster mull—was found more efficacious, while in syphilitic affections of the hand and foot a plaster of the following composition was most efficacious :—

Acid. salicylic	..	..	1 part.
Empl. saponis	...	...	} āā 5 parts.
Empl. hydrarg.	...	...

The *chrysarobin plaster mull* is an excellent means of applying chrysarobin to psoriasis.

Janowsky has found the *pyrogallie acid plaster mull* of use in widely-spread lupoid infiltration.

The *mercury plaster mull* may take the place of the ordinary emplastrum hydrargyri for local application, or as a means for administering mercury constitutionally. Combined with arsenic, it is very valuable in the treatment of proliferating condylomata, but the arsenic should be omitted after a short time.

Janowsky recommends Unna's zinc-oxide and thymol-salve mull for acute eczemas just passing into the chronic stage—especially too for eczema of the anal region, of the scrotum, of the nose and ears in scrofulous children. He has also found it useful in chronic eczema of the external genitals.

The *tar plaster mull* is more cleanly and not so unpleasant to the smell as tar itself.

The *acetic acid clay plaster mull* is of use in superficial inflammations of the skin in the regressive stage.

The *ichthyl sublimate plaster mull* has been found by Janowsky of great service in lupus, especially in old forms, occurring as relapses in parts which have healed after a former attack. The action of this mull requires careful watching, however, for it produces great irritation of the underlying tissue.

DISEASES OF THE EYE.

BY HENRY POWER, M.B., F.R.C.S.,

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1. Jequirity in diseases of the eye.

M. Coppez (*Annales d'Oculistique*, 1885, T. xciii., p. 215) gives the results of his large experience of the value of jequirity (the infusion of the red seeds of the *Abrus precatorius*) in diseases of the eye. He has treated 168 cases with this remedy, of which no less than 118 were cases of trachoma, or granular lids. The strength of the solution he has employed is rather higher than usual, and has been uniformly 10 per cent. Of the 118 cases, 94 gave excellent results, 11 experienced great improvement, 3 remained stationary, and in 10 cases the patients ceased to attend without note being taken of their state. He adds some important remarks on the complications and bad effects he has observed to occur from its use. These were—1 case of lacrimal tumour, which underwent spontaneous cure; 5 cases of infiltration of the cornea, without permanent ill effects; 1 case of exophthalmia, followed by recovery; 3 cases of symblepharon of the lower eyelid; 1 case of deep abscess of the lower eyelid; 1 case of glaucoma, consequent on the formation of posterior synechiæ, and 1 case of great hypertrophy of the upper eyelid—13 in all. The general result is consequently favourable to the employment of the remedy.

2. Cocain hydrochlorate in diseases of the eye.

The use of this remedy, to which attention was drawn in the last page of the corresponding report for last year, has largely extended, and it has been found useful in many forms of ophthalmic disease. Amongst the more important are—cataract, the extraction of foreign bodies from the conjunctiva and cornea; phlyctenular, and other ulcers of the cornea; burns, cyclitis, herpes zoster and frontalis, iritis, paracentesis and tattooing of the cornea, iridectomy, strabismus operation, and cauterisation of the conjunctiva with copper sulphate, or other remedy of a caustic nature.

Good papers on its action have been written by **Koller**, by whom it was introduced (*Wien. Med. Blatt.*, B. vii. No. 43, p. 1,352); by **Hirschberg** (*Centralblatt für Praktische Augenheilkunde*, Nov., 1884); by **Königstein** (*Wiener Med. Presse*, 1884, No. 42, 43); by **H. Knapp** (*Med. Record*, Oct. 25, 1884); by **Howe** (*Forts. der Med.*, Bd. ii., No. 22); and by **Jessop** (*Proceed. Royal Society*, 1885).

The strength of the solution which has been found most serviceable is about 4 per cent. If pure, it produces no pain when instilled. The eye becomes somewhat paler in appearance. The tension of the globe is unaltered. No change is observable in the fundus. The diminution of sensibility becomes marked in three minutes after the instillation of a drop or two; it attains its maximum in about a quarter of an hour, and the effect passes off in about fifteen minutes more. A second and a third instillation render the action more intense, and effect more complete anæsthesia. The pupil becomes wider in from ten to twenty minutes after the application of a drop, and in from half an hour to an hour it is as much dilated in many cases as after the use of atropin; but it soon begins to contract again, and becomes natural in the course of twenty-four hours. The accommodation is slightly impaired to the extent, perhaps, of one diopter. It appears to act not only on the terminal organs of the sensory nerves, but upon the sympathetic, since it causes enlargement of the palpebral fissure, protrusion of the globe of the eye, and moderate dilatation of the pupil, owing to the contraction of the dilator pupillæ muscle.

Dr. Pierd'hoy (*Gazetta Med. Ital.*, Lombardia, 1885) notes a feature in the action of cocain that is worthy of remembrance. It is well known that in some patients atropin exerts a poisonous action when applied to the conjunctiva, causing tumefaction and erythema, with great discomfort, or even burning pain. The combination of cocain with atropin solution prevents this occurrence, which is sufficiently annoying when it occurs. In cases where cocain cannot be obtained, a decoction of the leaves may be employed with advantage, and he has found that a solution of caffen dulls the sensibility of the cornea.

Ad. Weber (*Klinische Monatsblatt*, 1884, p. 443) has shown by his experiments that when under the influence of cocain, both atropin and eserine are capable of exerting their power over the sphincter and dilatator pupillæ respectively, or, in other words, cocain weakens or neutralises the forces which govern the dilatation and contraction of the pupil, and thus aid or render more efficacious those that tend to antagonise them. M. Weber has also found that if pilocarpin be combined with cocain, a result is obtained

that is of special interest to military surgeons. One drop of a solution of pilocarpin mingled with four drops of solution of 2 per cent. solution of cocain, produces in the space of from five to ten minutes, in a previously emmetropic eye, a myopia amounting to 7 to 8 D. This condition lasts for about two hours, without any other manifest change occurring in the eye. Koller considers that if cocain be continuously used all the structures of the eye may be rendered insensitive as far as to the retina; but indications of pain are usually given in operations for irideotomy, even when a tolerably strong solution has been instilled for several hours, at intervals of a few minutes.

Dr. Bunge (*Klin. Monatsblätt. für Augenheilkunde*, Sept., 1885, p. 402) calls attention to the occasional bad effects of cocain upon the eye. Amongst the more prominent and important of these are detachment of the epithelium near the centre of the cornea, and the appearance of a vesicular ulceration near the margin of the wound, in cases when the cocain had been employed for cataract operations.

3. The use of the galvano-cautery in ophthalmic surgery.

In the Report of the Ophthalmological Congress at Copenhagen, in M. Galezowski's Journal, it is stated that **M. Nieden** (*Recueil d'Ophthalmologie*, Jan., 1885) read a paper on this subject. M. Nieden finds the galvano-cautery most serviceable in affections of the conjunctiva and of the cornea, especially in those which are apparently due to mycotic infection, and amongst these he enumerates trachoma, xerosis, rodent ulcer, and scrofulous marginal ulcer. It effects perfect disinfection, as is demonstrated by the immediate cleansing of the base of the ulcer, and favours the process of reparation, shown by the filling up of the cavity with new tissue, the clearing of the aqueous humour, dilatation of the pupil, and disappearance of hypopyon. It renders, in most instances, the performance of keratotomy unnecessary. If this, however, is considered requisite, it can be effected by means of the wire loop passing through the base of the ulcer, an operation that is but slightly painful, and can be performed without an anæsthetic, without a speculum, and without an assistant. Ciliary neuralgia rapidly disappears, and in most cases only a nebula, though occasionally a leucoma remains.

The subject has also been worked at by **Dr. F. Terrier** (*Archives d'Ophthalmologie*, No. 1, 1885, p. 9) who recommends it strongly in the treatment of ectropion, entropion, and trichiasis. The eye should be shielded from injury by the employment of the horn spatula of Beer, and the thermo-cautery should then be drawn

along the skin or mucous membrane, at a distance of about 3 or 4 mm. from the palpebral border, and parallel to it. The cauterisation should be sufficiently deep, and penetrate as far as, but not far into, the tarsal cartilage, lest the resulting contraction be excessive. The temperature of the instrument should be such that it presents a cherry red colour. It then penetrates well, acts as a knife, and the bleeding is inconsiderable. Terrier has in general used anæsthetics, but they are not indispensable. Pain is quickly assuaged by the application of cold compresses. The inflammatory palpebral œdema only lasts about a week, and the eschar usually separates about the 8th to the 10th day, so that the cure is complete in about a fortnight.

4. Restoration of the eyelid by transplantation of a free flap of skin.

Dr. Bull (*Transactions of the American Ophthalmological Society*, Twentieth Annual Meeting, Boston, 1885) reports three cases of ectropion, consequent either upon a burn, or upon caries of the inferior orbital border, with adhesion of the skin, in which this proceeding was adopted with success. The skin was taken from the arms, the flaps being in all cases much larger than the space they were intended to cover, and the sutures were made with carbolised silk. The dressing was also carbolised, and iodoform was used. Suppuration at the edges of the wound could not always be avoided, but the flaps retained their vitality, and the result was excellent in each of the three cases.

Mr. Streatfield (*Transact. of the Ophthalmolog. Soc. of the United Kingdom*, Vol. iv., 1884) records a case in which a similar proceeding was adopted. The ectropion was conspicuous, the palpebral conjunctiva being exposed to the extent of seven millimetres, measured vertically. An incision was made just below the everted lower lid, extending from the outer to the inner canthus, the skin being dissected from the lid and its orbicularis muscle till, without dragging, it could easily be brought into contact with the upper one. These both being made raw by removing a narrow strip of mucous membrane from the inner margin of the edges of the two lids, they were sewn together with three stitches. A portion of the thin skin from the inner side of the arm was removed, the size of the space to be covered being $1\frac{1}{4}$ by $\frac{1}{2}$ inches, and the size of the piece removed being $1\frac{5}{8}$ by $\frac{3}{4}$ inches; a carefully applied dressing of warm boracic acid lotion was then used, and an excellent result followed. The lids were separated nine months after the operation, and the result was excellent.

5. Treatment of wounds of the eye.

M. Dehenne (*Recueil d'Ophthalmologie*, Jan., 1885), in a

carefully written paper on this subject, considers the chief forms of wounds to which the eye is liable, and draws the following conclusions:—First, that every wound of the eye, however slight it may at first sight appear, ought to be examined with the utmost care, and an examination of the field of vision should never be neglected. Secondly, the forecast of the result should in all cases be given with extreme reserve. In many instances it is prudent to allow several days to elapse before giving any prognosis. Thirdly, the ciliary region is the veritable *noli me tangere* of the eye. Any lesion of this part of the eye is fraught with danger, and greatly adds to the gravity of the prognosis. Fourthly, the presence of an anterior synechia renders it necessary that the surgeon should be very guarded in his prognosis, even when the injured eye has regained its normal functional activity. The adherence of the iris to the cornea, however slight it may be, is owing to the perpetual movement of the iris, a constant menace. Lastly, the presence of a foreign body in the eye may at any time induce an acute attack of sympathetic ophthalmia. Wounds of the ciliary region most commonly cause subsequent sympathetic attacks, and should always be carefully watched.

6. The treatment of opacities of the cornea.

Herr Heisrath (*Berlin. Klin. Wochenbl. und Centralbl. für Praktische Augenheilk.*, Jahrg. viii., p. 24), after commenting upon the unsatisfactory results of the ordinary treatment of corneal opacities, recommends friction with an ointment composed of potassium iodide 1 part, sodium bicarbonate 0.5 part, vaselin 10 parts. It acts quickly, and restores the transparency of the cornea even in cases where the cloud is of considerable density. It may be employed in the later stage of cases of keratitis parenchymatosa.

7. Treatment of conical cornea.

Prof. Panas (*Archiv. d'Ophthalmologie*, T. v., No. 4) states that after trying the several surgical methods which have been suggested for the cure of this disease, as, for example, that of iridectomy, shaving off the apex of the cone, followed by repeated cauterisation with nitrate of silver, and excision of a semilunar flap from the centre of the cone, he has arrived at the conclusion that surgical means are only exceptionally successful in the treatment of conical cornea. He therefore determined to try the effects of eserine, already suggested by Weber, for the purpose of lowering the tone of the eye, combined with moderate compression, and, if necessary, with cauterisation of the centre of the cornea. He records a case in which the results were brilliant. The plan adopted consisted in dropping into the eye four times

daily two drops of an eserine collyrium containing 1 part to 100 of water, and four times daily also two drops of a 2 per cent, solution of pilocarpin. A firm, but not severe, compressive bandage was applied. One eye underwent great improvement under this treatment, but the other became painful, and the pressure could not be maintained. Under these circumstances the patient was counselled to submit to an operation, and having been anæstheticised, the apex of the corneal cone was cauterised with the aid of a fine point of the thermo-cautery heated to a dull red. No pain followed the cauterisation, and there were only slight traces of the operation. The compression was maintained, and in the course of a month great improvement took place. The patient was able to read No. 2 of Wecker's test types, and the figures obtained by means of the reflection of a series of concentric circles of an ophthalmometer from the surface of the cornea were much more regular. In another month the patient, who was twenty-nine years of age, returned to her avocation as post-mistress, and has continued it for upwards of a year without difficulty.

8. The septic germs contained in the secretion of the lacrimal sac.

M. Sattler (*Archiv. d'Ophthalmol.*, T. v. 1885, p. 45) read a paper on this subject before the Ophthalmological Society of Heidelberg. He examined the secretions of 28 lacrimal sacs. The fluids in question were obtained by means of a platinum spatula, sterilised by passing through the flame of a lamp, and were then embedded in gelatine. The several cultures were examined in the course of twenty-four hours. The germs of a considerable number of different species of bacteria were found. The pyococcus filogenus presented two varieties, the white and the orange-coloured, and constituted 80 per cent. of all the germs. It is only slightly malign in its action. He did not in any instance meet with the streptococcus pyogenus. He found, however, on various occasions staphylococcus germs which appeared to induce attacks of infectious keratitis, with rapid complications of iritis. He determined the presence of pneumococcus. He was able to differentiate six different species of bacteria, of which only two presented spores. He then gave the results of his experiments on antiseptics. He found that a solution of corrosive sublimate, containing one part in 10,000, was insufficient, in the proportion of 1 part in 5,000 it acted as an antiseptic in cases of cataract operations. He referred to the practice of Professor Panas, of Paris, who employs a solution of 1 part of biniodide of mercury in 10,000, but M. Sattler maintains that a solution of this

strength cannot be obtained. The most concentrated solution of this salt is 1—30,000th, and in this proportion it does not insure anti-sepsis ; but he adds that by dissolving the biniodide in an aqueous solution of corrosive sublimate, containing 1 part in 5,000, a very powerful antiseptic fluid is obtained.

9. The employment of acetol in diseases of the eye.

Dr. Pierd'houty (*Riforma Medica*, Gennaio 12, 1885) states that acetol has already been employed in ophthalmic affections ; but the knowledge of its value is not very generally diffused. His own experience of it is, however, very satisfactory, and he believes it to present great advantages. It is soluble in water, inodorous, non-irritating, mingles easily with vaseline, and is as antiseptic as carbolic acid. It has been employed as a collyrium, and also as a detergent after operations. It has given good results employed in the form of ointment in septic keratitis, and in parenchymatous keratitis. In cases of dacryocystitis he has used it as an injection into the lacrimal sac, and he has also used it with the best results as an application after the incision has been made for lacrimal fistula.

10. Atropin as a remedy for squint.

Boucheron (*Berlin. Klin. Wochenschrift*, 1884, No. 41) strongly recommends the employment of atropin in the treatment of incipient internal squint. The rationale of its action is sufficiently obvious. By rendering accommodation impossible, it prevents any disposition to look at near objects, and therefore removes the efforts at accommodation. After some weeks appropriate glasses must be selected for the patient and worn by him, which will prevent a relapse. The plan is only likely to prove effective in those cases where the affection is incipient ; where it is confirmed an operation is required.

11. Drainage of the anterior chamber of the eye.

Dr. Cervera (*Rev. Ophth. de Madrid*, Dec., 1884) records two cases of rebellious hypopyon, one of which followed iritis, whilst the other was consecutive upon diffuse interstitial abscess of the cornea. Apprehension that phlegmon of the globe might occur, it suggested itself to him that he might apply the principles of drainage in ordinary use elsewhere. With this object in view, he passed a leash of hairs across the anterior chamber in its vertical diameter, employing for the purpose a discission needle, near the point of which a hole had been drilled, threaded with four hairs, which was entered above and made to emerge at the lower part of the cornea. The ends of the hairs were left in position, and each day they were drawn to and fro, which favoured the escape of pus. In addition a 1 per cent. solution

of borax was occasionally injected into the anterior chamber. At the end of four days suppuration ceased to occur, the hairs were withdrawn, atropin solution was instilled, a bandage was applied, and speedy recovery is stated to have taken place.

12. New test for colour blindness.

Dr. Richard Hibbert (*Archives of Ophthalmology*, Sept. and Dec., 1884) has devised a new test for colour blindness, whether partial or complete, which is easy of application and simple in theory. The material he has employed is shot-silk, which can be obtained from any milliner's establishment. The colours should be red and green. The appearance presented by each silk, as is well known, is red under one aspect and green under another. The patient who is colour blind is unable to recognise or name the play of colours, and a very brief examination is all that is required. Other colours, to detect the rarer forms of colour blindness, as blue and yellow, violet and orange, green and blue, may be employed.

13. Transmission of sympathetic disease.

Dr. Brailey (*Transact. of Ophthalmol. Soc. of the United Kingdom*, Vol. iv., p. 62) has given an interesting account of his researches, extending over many years, in respect to the mode of transmission of sympathetic disease. When this affected the uveal tract, he found cells either in small isolated cavities or in a continuous layer on the lower part of the posterior surface of the cornea and round the blood vessels of the papilla, extending thence along the central vessels of the optic nerve. The iris, in the slighter cases, exhibited clusters of cells in its middle layers, or if the iritis were severe the whole of its substance was densely packed with similar cells, and cells were also found making a stratum of adhesive inflammatory exudation on its posterior surface. Its blood vessels had their walls thickened, and then became occupied by a proliferation of thin endothelial layer. If cyclitis accompanied the iritis, the inflammatory cells were accumulated in the inner part of the ciliary processes, and if the choroid were affected the cells chiefly occupied its middle layer. He states that at one time he was of opinion that the disease in the first or exciting eye is always a severe adhesive inflammation, and that this must, at least to some extent, be in activity at the time of the outbreak of sympathetic disease. But he has lately seen several cases where the first eye, perhaps a mere stump at the time of the outbreak, has been neither tender nor painful, having been quiet for long, even for years. Hence he has been strongly impressed with the truth of the observations of others that eyes shrunk and perfectly quiet after panophthalmitis may excite genuine sympathetic iritis. On the whole, Dr. Brailey, from the consideration of various cases

that have fallen under his observation, is opposed to the theory of direct transmission of the inflammation from one eye to the other by whatever route, whether by inflammatory cells in the blood, or by a continuous actual neuritis, either of the ciliary or optic nerves, or by an inflammation of the fibres of the inter-sheath space of this last. He appears to regard it as a trophic disturbance of the secondarily affected eye, probably induced by and through allied conditions of the nervous system.

14. Enucleation or exenteration of the eye.

The term enucleation signifies the entire removal of the globe of the eye; that of exenteration, the ablation of the whole contents of the globe, the sclerotic being left as a stump, to which an artificial eye can be applied. Dr. Graefe (*Annales d'Ocul.*, T. xciii., p. 250, 1885) points out that enucleation is not without danger, and that in a certain number of cases, though doubtless rarely, enucleation is followed by meningitis, the termination of which is almost always fatal. It is not always possible to escape this sad result, even when laying down a rule not to operate on eyes which are attacked with panophthalmitis. The cause of the meningitis may always be referred to the wound, and it is induced by the propagation of septic irritation arising in the wound and spreading thence to the interior of the skull. No antiseptic measures will entirely prevent this extension. The essential advantage of exenteration is that in this operation no lesion is caused of the paths of communication between the orbit and the brain, hence the dangers and complications of enucleation are avoided. A second and subsidiary advantage is that the stump is admirably adapted for the application of an artificial eye.

15. The relation between asthenopia and affections of the tonsils.

M. V. Hoffmann (*Annales d'Oculistiques*, 1885, T. 93, p. 201), in a paper read before the Ophthalmological Society of Heidelberg, called attention to the frequency with which failure of accommodation is associated with more or less marked disease of the tonsils. Such failure occurs in cases of relapse from scarlet fever, diphtheria, and herpetic eruptions. The author of the paper effected a cure without any treatment directed to the eyes, by attending carefully to the relapses, and by improving the condition of the tonsils. He found in some cases large sacs left by former inflammations, which were sometimes filled with caseous matter; in others, fistulous passages. These he opened up with a bistoury, and, the mucopurulent matter being thus set free, the surface was cleansed with tincture of iodine, glycerine, and other applications of an antiseptic nature.

16. A new mydriatic.

According to Dr. Pierd'houty (*Annales d'Oculistique*, T. 94, p. 191), scopolein, a new alkaloid obtained from the *scopolia japonica*, dilates the pupil even more rapidly than atropine. Its action, moreover, is more energetic, and lasts for a longer period, for at the close of the third day the iris of the eye into which scopolein has been injected is larger than that which has been subjected to the action of atropin. Scopolein antagonises eserin better than atropin ; and, lastly, scopolein appears to have a less irritating action on the conjunctiva than atropin.

DISEASES OF THE EAR.

BY GEORGE P. FIELD, M.R.C.S.

Aural Surgeon to St. Mary's Hospital.

1. Cocaine in ear operations.

Kretschmann (*Arch. f. Ohrenheilk.*, XXII., p. 243) finds that, in operations on the membrana tympani, cocaine is an uncertain anæsthetic ; but in operations on the mucous membrane it has a marked effect in alleviating pain.

Kirchner (*Deutsche Med. Woch.*, No. 4, 1885) also finds that a 20 per cent. solution is required to produce any effect in operations on the membrana tympani.

Zanfä (*Präger. Med. Woch.*, No. 7, 1885) has obtained similar results.

Cocaine is not, in my experience, a very satisfactory anæsthetic in operations for diseases of the ear. In the removal of large and painful polypi it is useless, but in smaller growths, especially those near the membrana tympani, a 20 per cent. solution of this drug has invariably proved valuable. The part to be operated on should first be carefully wiped dry with cotton wool, to remove any collection of pus ; the solution of cocaine should then be painted on with a camel-hair brush, and allowed to remain for at least five minutes, before any operative measures are adopted. With children it is preferable in most cases to give ether or chloroform, more especially if the growth is small, and there is any difficulty in its removal, as, although there may be no pain, the little patient can rarely be induced to sit still. The weak solutions of cocaine, recommended by some surgeons, are all but useless.

2. Cocaine in tinnitus aurium.

Dr. H. G. Sherman (*New York Med. Record*, Nov. 15, 1884) has twice instilled a few drops of a 4 per cent. solution of cocaine into the ear in tinnitus aurium consequent upon chronic otitis media, with the result of lessening both tinnitus and deafness.

The good effect here mentioned, in the relief of tinnitus aurium, may be produced by the instillation into the ear of many other drugs. Unfortunately, the beneficial effect is not in any case lasting.

3. Ménière's disease.

In considering treatment Dr. Pierce (*Med. Chron.*, Oct., 1885) lays stress upon the importance of distinguishing between true Ménière's disease and labyrinthine vertigo. In the former he advocates, during the attack, rest in a recumbent posture, restricted diet, cold to the head, and sinapisms to the epigastrium and feet. After-treatment is unsatisfactory. Potassium bromide and iodide in large doses, with or without strychnia, nux vomica, or gelsemium, though lessening tinnitus, only improve audition to a very limited extent, as do the usual mastoid applications. Quinine in large doses improves unsteadiness of gait; but Dr. Pierce does not speak favourably of it as regards hearing and tinnitus. Moreover, in that at first it aggravates head symptoms, it is usually taken with difficulty. More benefit may be expected from the continuous current and nerve tonics, strychnia, phosphorus, etc.

In labyrinthine vertigo, the main point is to remove sources of reflex irritation, and to continue local treatment by cathetic politzerisation, inhalation of ammonia, camphor, iodine, benzoic acid, etc., by attention to the state of the naso-pharynx, avoidance of tobacco and alcohol, regulation of diet, the use of saline aperients, and, if tinnitus be severe and persistent, leeches in front of the ear. Vesication of the mastoid is worse than useless. Large doses of bromide of potash and ammonia, tinct. of gelsemium, hydrastin, and valerianate of zinc have been useful in tinnitus.

There is no doubt that the administration of quinine in large doses, as recommended by Charcot, often relieves cases of auditory vertigo; but I have almost invariably found that it also increases the deafness rapidly, and the loss of hearing becomes almost absolute if the treatment by quinine is continued. Bromide of ammonium in large doses is one of the most useful drugs, and is not so lowering in its effects as the bromide of potassium. All forms of electricity are of no avail, and, indeed, as Dr. Pierce points out, may be injurious, even increasing and complicating the disease.

4. Acute catarrh.

Dr. Sexton records (*Lancet*, Oct. 18, 1884) a case where he removed the secretions from the tympanum by passing a flexible eustachian catheter, $\frac{1}{4}$ inch in diameter, through the inferior nasal passage, and connecting it by means of a piece of indiarubber tubing with a large metallic syringe, which was then used as an aspirator. The

pain disappeared ; relief from disagreeable tension, etc., was immediate and permanent ; but deafness and autophonia did not disappear for some days.

5. Pilocarpine in affections of the labyrinth.

Prof. Adam Politzer (*Allgemeine Wien. Med. Zeitung*, Jan. 20, 1885) has employed for some time gradually increasing doses of 2 to 6 drops of a two per cent. solution of muriate of pilocarpine by subcutaneous injection daily into the forearm until extreme salivation, sweating, and incipient vomiting are induced. These are combated by 2 drops of solution of atropine sulph. in water (gr. ss, ad zii). The number of injections is from 6 to 40. In syphilis of the labyrinth this treatment has been highly favourable, and in a case of non-syphilitic labyrinthine disease it has proved beneficial.

As regards results of pilocarpine in pan-otitis and simultaneous otitis of middle and internal ear, Professor Lucaë (Berlin) has adopted this treatment in 35 cases, with remarkable benefit in 5, slight in 6, and no effect in 24.

Use of sol. atropiæ sulph. (0·03 in water 10·0) will quickly stop any salivation, collapse, or vomiting after pilocarpine. (*Wien. Med. Blätt.*, No. 4, Jan. 2, 1885.)

6. Pilocarpine in labyrinthine disease (non-specific).

Prof. S. Moos, of Heidelberg, in the *Archives of Otology*, Vol. XIII., Nos. 3 and 4, 1884, 252, records a case of double labyrinthine disease after scarlatina treated by hypodermic injections:—

Pilocarpin. muriat.	..	..	..	0·02
Aquæ destillatæ ..	..	..	..	2·00

—ten drops to be injected once daily, and, subsequently, once every other day, the object being to produce resorption of the fluid in the labyrinth.

There had been in this case absolute deafness, both aerial and conducted, loud subjective noises, and tottering. Subsequently, a moderately loud voice was distinctly heard $3\frac{1}{2}$ m. from the left ear, the right ear hearing only a noise. The watch was audible—left, 10 cm. ; right, 5 cm.

7. Calomel insufflations in otorrhœa.

Gottstein, of Breslau, in a paper translated by McMahon (*Arch. Otolog.*, Vol. XIII., Nos. 3 and 4, 1884, 281), says that he has satisfied himself that calomel is absolutely non-irritant, does not leave any precipitate difficult of removal, and gives surprising results. He quotes 80 observations. He first syringes with $\frac{1}{10}$ per cent. sublimate sol., politzerizes to force residue of secretion into ext. meatus, syringes, and dries with cotton. He then blows

in the calomel. Of 27 acute cases, 12 were cured in 10 days; of 30 chronic, 13 in 10 days. Gottstein considers that the sodium chloride in pus changes the calomel into nascent sublimate.

8. Corrosive sublimate in ear diseases.

Wagenhäuser (*Arch. f. Ohrenheilk.*, XXII., p. 96) recommends a solution of corrosive sublimate (1 in 10,000 to 0.5 in 1,000) in suppuration of the middle ear. So also Estelberg (*Wiener Med. Presse*, 1884, No. 38).

Würkner recommends (*Lyon Med.*, 1885, No. 9) that the ear should be irrigated with a 1 per cent. aqueous solution of corrosive sublimate. When the pus is lessened, he injects $\frac{1}{2}$ gr. to 1 gr. to the oz. solutions of the sublimate in alcohol. His successes have been as 1 to 2.

9. Peroxide of hydrogen in purulent otitis media.

Dr. Sexton (*Trans. Amer. Otol. Soc.*, July, 1884) has had good results in acute and chronic cases. He instils a few drops of 15 vol. sol., either diluted or, in chronic cases, pure, allowing it to remain a minute or so. He then dries the ear with cotton wool.

Dayton (*Archives of Otology*, Vol. XIV., No. 1, 1885, p. 6) says, "Out of thirty-four cases of suppurative inflammation of the middle ear treated by peroxide of hydrogen during the past 11 weeks, the discharge has stopped in 9, and the hearing distance has been improved in all that remain under observation. In some cases he found it necessary, in addition to the H_2O_2 , to pack the auditory meatus with boracic acid."

He uses a 12 per cent. solution in water, which causes a strong effervescence for a time, and thinks it better to begin cautiously, say with a 6 per cent. solution. More than 2 applications daily are rarely required.

He claims that it lessens discharge, may stop tinnitus, is a disinfectant, and a perfect cleansing agent.

He has also confidence in the internal administration of a 2 per cent. solution in tablespoonful doses.

10. Otorrhœa in children.

Kimseir (*Amer. Journ. of Obstetrics*, Nov., 1884), recommends that, when symptoms of mastoiditis begin after the application of leeches, the affected region be painted with a strong solution of silver nitrate, or with some iodine preparation, followed by warm applications, with a view to prevent periostitis.

11. Otorrhœa.

Dr. Brandeis (*Arch. of Otology*, XIII., No. 1., p. 13) has discarded other methods in otorrhœa in favour of boroglyceride. He cleanses the meatus by driving discharge through with Politzer's bag, or catheter, and absorbs fluids then with borated cotton wool.

He next instils into the meatus a few drops of boroglyceride solution (10 to 50 per cent.), beginning with the stronger solution, and diminishing as the mucous membrane assumes a healthier appearance. The solution about half fills the meatus. If there is a perforation, a catheter is passed, and inflation performed; fluid then trickles through the perforation into the external meatus. The applications should be made two or three times a week.

Dr. C. H. Burnett recommends (*Polyclinic*, May 15, 1885) a 1 per cent. solution of chinoline salicylate in otorrhœa accompanied by any form of aspergillus or other fungus; also insufflation of one part of chinoline salicylate with 16 parts of powdered boric acid. (*Med. Chron.*, Oct., 1885.) Every year new modes of treatment are recommended for otorrhœa, doubtless many of the methods above-mentioned are useful, but generally speaking, in my opinion, there is no better plan than the dry treatment, viz., wiping the ear out carefully with cotton wool, and then blowing in an antiseptic powder, such as boracic or salicylic acid. This is especially serviceable in cases of large perforation of the membrana tympani; lotions, on the other hand, being more useful where there is a small perforation. It is well, however, to remember that where so many different remedies are recommended the more simple ones are generally the better applied by the patient, and are, therefore, those most beneficial.

12. Cerebral otorrhœa.

Mr. Wheeler (*Dublin Journal of Medical Science*, Oct., 1884; *Med. Chron.*, July, 1885) recommends early trephining, and thinks it well to advise operation, even if no bone-disease exists, if a purulent discharge from the tympanum persists for a lengthened period, and does not yield to other treatment, such as syringing and enlarging the opening of the membrana tympani if necessary. He also deprecates the use of the gouge and galvano-cautery over the mastoid process, as recommended by Dr. Bagroff. Unless the suppuration be comparatively superficial, or discharging through a fistulous opening, Mr. Wheeler would not operate over the mastoid process, as there, owing to the proximity of the lateral sinus, one cannot expose the dura mater, and this is essential. The best method is for the lower border of the trephine to be on a level with the external auditory meatus, and anterior to a central and vertical line through the mastoid process. I considered this subject fully in the "Year-Book" for 1884.

13. Nervous deafness.

Dr. Longhi (*Monatsch. f. Ohrenheilk.*, Bd. XV., No. 12) recommends that, after the health has been as much as possible improved, the vapour of acetic ether should be blown into the ear.

He also regards as useful remedies blisters, purgatives, setons, quinine—especially in cases accompanied by vertigo—and electrification of the auditory nerve.

14. Hæmatoma auris.

Dr. Lucien Lowe (*Trans. Amer. Otol. Soc.*, July, 1884) treated a sane person for hæmatoma auris of four years' duration with great benefit by subcutaneous injections of two to five m. of liquid extract of ergot.

15. New instrument.

Politzer (*Wien. Med. Woch.*, No. 22, 1884; *Trans. Arch. Otology*, 1884, Vol. XIII., Nos. 3 and 4, p. 308) has invented a new instrument to improve hearing, in accordance with the fact that the elastic cartilage favours transmission of sound waves to bones of the head. In order to connect drumhead with concha a very small drainage tube, whose inner end, by being split open, forms a narrow disc, is found most serviceable. The outer end of the tube is connected with a caoutchouc membrane, from 1 to 1.25 cm. in diameter, which is inserted into the concavity of the concha. This instrument can be inserted by the patient himself. It affords relief not only by facilitating the transmission of sound, but also by exerting pressure. It has been fairly successful.

16. Massage of the internal tube.

Wibantschitsch (*Arch. f. Ohrenheilk.*, XXII., p. 118) recommends the insertion of a "knobbed" bougie into the eustachian tube after the fashion of a catheter. Then by drawing the bougie in and out a massage of the mucous membrane is effected, and in many cases hearing is much improved.

17. Treatment of chronic catarrh of the middle ear.

Delstanche (*Arch. f. Ohrenheilk.*, XXII., p. 119) recommends the insertion of iodoform vaseline into the middle ear by means of a bougie, the eustachian tube being first widened by bougies.

18. Ivory exostoses.

Mr. Benson (*Dublin Jour. of Med. Sci.*, April, 1885) employed electrolysis by means of gold needles connected with the negative pole of a 10-cell Leclanché battery. The needle was bent into the form of a hook, and thrust into the skin behind the apex of the growth. Fourteen or fifteen applications of five minutes each on consecutive days were tried, and powdered boracic acid was blown into the meatus after the removal of the needle. The tumour was riddled with holes, and the top of the bone necrosed. Hearing was perfect, but as cerumen collected, a dental engine was employed to remove the growth. Complete extermination of the bony tumour and the return of normal hearing were obtained.

I do not agree with the electrical part of the treatment, for surely a 10-cell Leclanché would be a poor electrolysing force. No doubt the removal of an aural exostosis is best accomplished with the dental engine. It is, moreover, a perfectly safe operation if carefully carried out. (See *Lancet*, May 30, 1885.)

19. Deaf mutism.

Dr. Boucheron (*Rev. Mens. de Laryng., d'Otol., et de Rhinol.*, Feb., 1885, and *American Journal of Medical Science*, April, 1885), at the conclusion of a valuable paper on deaf mutism caused by auricular compression, reaches the following conclusions relative to the treatment of the affection:—

The compression of the acoustic nerves has its origin in a vacuum existing in the tympanum, caused by the absorption of the air by the vessels of the ear cavity.

The vacuum is rapidly reproduced when the air cannot be easily renewed.

The first indication is to abolish the tympanic vacuum as often as it is reproduced.

When the vacuum in the cavity persists for some time, the atmospheric pressure depresses the tympanic membrane, drives down the ossicles, and fixes them in a vicious position.

This gives rise to inflammation of the mucous membrane, causing thickening and the production of new connective tissues. The newly formed elements become organised and retract, and the retraction tends still further to immobilise the stapes and other ossicles in their malposition.

Therefore this position may persist after the disappearance of the tympanic vacuum, and the effects of the auricular pressure outlast its original cause.

The second indication is to return, by means of pressure outside of the tympanic membrane, the ossicles, and especially the stapes, to their correct position, and to mobilise them as much as possible.

The affection which causes most frequently a vacuum of the tympanic cavity is obstruction of the eustachian tube by an auriculo-tubal catarrh, which is either accidental, constitutional, or hereditary.

The third indication is to cure such catarrh, and to resort to proper treatment when it is of constitutional origin.

The fourth indication is to stimulate the labyrinthine nerves anæsthetised by compression.

The fifth indication is to educate the sense of hearing, if ability to distinguish speech remain.

The sixth indication is to instruct by artificial methods if hearing is partial, insufficient, or wanting.

The treatment of the condition above described varies. The first and second indications are fulfilled by insufflation of air into the tympanum by catheterisation. Young children should be anæsthetised preparatory to undergoing this operation. Dr. Boucheron employs the method of Saint Germain, which requires but five or six inspirations of chloroform. Its results are uniformly pleasant and safe.

Perforation of the tympanic membrane and section of the muscles of the malleus are also employed when required by the preceding indications.

Politzer's bag is employed after such operation when the ossicles and membrane have resumed their proper position, in order to maintain the correction. Its use is also advisable in newborn children, and in families of deaf mutes, when nasopharyngeal catarrh with auricular complications is to be feared.

Nasopharyngeal catarrh should be treated by astringents, or by general medications, according to the symptoms and the diathesis of the patient.

When the eustachian tubes are open, and the nerves compressed, the feeble continued current may be employed.

Early instruction in speech, either by the aid of hearing, when the voice can be perceived, or by artificial methods, when the sense of hearing is lost, is important.

DISEASES OF THE THROAT AND NOSE.

BY FELIX SEMON, M.D., F.R.C.P. LOND.,

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A.—GENERAL THERAPEUTICS.

a. TEXT BOOKS.

VALUABLE general information on the progress of therapeutics of affections of the upper respiratory passages will be found in the following text-books, reports, and pharmacopœias, published during the year :

- I. **Clinton Wagner** : *Diseases of the Nose*. New York, 1884, Bermingham and Co.
- II. **G. M. Lefferts** : *A Pharmacopœia for the Treatment of Diseases of the Larynx, Pharynx, and Nasal Passages, with Remarks on the Selection of Remedies and Choice of Instruments, and on the Methods of making Local Applications*. New York and London, G. P. Putnam's Sons, 1884. Second edition.

This little work is full of useful information, and may be strongly recommended to the practitioner who wishes to keep pace with the progress of therapeutics of the upper air-passages. The only point in which exception might justly be taken to the views of the author is his somewhat scanty appreciation of the advantages of the galvano-caustic method, as compared with other caustics. With regard to that point, I beg to refer to my remarks in the last volume of this "Year-Book," p. 281.

- III. **C. Michel—R. Calmettes** : *Du Traitement des Maladies de la Gorge et du Larynx*. Bruxelles, A. Manceaux, 1884.
- IV. **T. Ashurst** : *The International Encyclopædia of Surgery*. Vol. V., containing *The Diseases of Nose, Throat, and Neck*, discussed by **G. M. Lefferts**, **Christopher Heath**, **G. H. B. Macleod**, and **J. Solis Cohen**. Philadelphia, W. Wood and Co., 1884.

The articles on diseases of the nose and of the larynx are

especially distinguished by numerous and valuable therapeutical suggestions.

V. Ph. Schech: *Die Krankheiten der Mundhöhle, des Rachens, und der Nase.* Wien, 1885, Toeplitz und Deuticke.

This is a most instructive little text-book, from the scientific as well as from the purely practical point of view. The author's directions as to treatment are distinguished by great simplicity and clearness. His galvano-caustic instruments are unsurpassed for applicability to the most intricate parts of the nose and throat, and for light weight and cheapness. Especially valuable are Schech's remarks concerning the diagnosis and treatment of the affections of the pneumatic appendages of the nose (antrum, sinus frontales, sphenoidales, etc.), to the importance and comparative frequency of which the proper amount of attention has only quite lately been directed.

VI. Max Schæffer: *Chirurgische Erfahrungen in der Rhinologie und Laryngologie.* Wiesbaden, T. E. Bergmann, 1885.

b. INDIVIDUAL REMEDIES.

1. Hydrochlorate of cocaine as an anæsthetic and analgetic in diseases of the throat and nose.

The actual progress made during the past year in the treatment of affections of the upper air-passages would be singularly small, were it not for the introduction of hydrochlorate of cocaine into our therapeutical armamentarium. This, alone, however, suffices, from a therapeutic point of view, to stamp that period as the most important one for many years past; for, while cocaine has proved to be a valuable remedy in the affections of many other mucous membranes, it may be boldly asserted that no other branch of medicine has been benefited to such a degree by its introduction as rhinology and laryngology. If any proof of the correctness of that statement were necessary, it would be afforded by the almost unanimous praise with which it has been hailed in numberless reports from all parts of the world. I may state here that in my capacity as Editor of the "*Internationales Centralblatt für Laryngologie und Rhinologie*," I have, so far, received reports of not less than sixty-three papers, all acknowledging the value, and recommending, in more or less enthusiastic terms, the use of cocaine in the most divers affections of the throat and nose, there being, practically, unanimity in that respect, and the only difference being in reference to the degree of efficacy in various affections. I propose to give, instead of a dry enumeration of the names of authors and of the titles of their papers, a short *resumé* of our present knowledge of the various uses of the remedy in affec-

tions of the upper air passages. It may also be mentioned, as a matter of historical justice, that hydrochlorate of cocaine as an anæsthetic and analgetic for diseases of the throat and nose was first recommended by Jelinek (*Wiener Medicinische Blätter*, Nos. 39 and 44, 1844), and that it was first tried in Prof. Schroetter's clinic in Vienna in the autumn of last year.

Concerning the use of the remedy, the following observations may be useful. Cocaine may be used in the upper air passages in the form of solutions, to be applied by means of a brush, sponge, spray, or in the form of pastils, tablets, etc. If used in solution, it ought to be suspended in camphor-water; or a slight addition of boracic or salicylic acid should be made to the aqueous or spirituous solution, because a small fungus quickly develops in the latter when there is no such addition. The originally exorbitant price of the remedy has led to trials with very weak solutions, and there can be no doubt that even two per cent. and four per cent. solutions produce a certain diminution of sensibility of the respiratory mucous membranes; the full anaesthetic and analgetic effect, however, of which the remedy is capable will only be obtained, so far as the mucous membranes of the throat and nose are concerned, if a twenty per cent. solution be used. The price of the drug having lately fallen very considerably, so that the question of expense has become altogether insignificant, there is no longer any use in tampering with weaker concentrations, and the use of the full strength solution may be warmly recommended. It ought to be observed here that the susceptibilities of different individuals to the influence of local applications of cocaine vary just as much as the susceptibilities to the influence of other narcotics, and that now and then persons will be met with in whom a diminution only, but no complete loss, of sensibility will be obtained. Some constitutions, indeed, appear not to be at all susceptible to the effect of the drug, but it may fairly be stated that these cases form only rare exceptions. Children appear, on the whole, to come more quickly under the influence of the drug than adults. Complete anæsthesia is generally produced in the parts painted with a twenty per cent. solution after from three to five minutes; and lasts, with gradually decreasing intensity, on the average fifteen to twenty minutes. The anaesthetic and analgetic effect is associated with contraction of the vessels of the parts (the ischaemia is especially noticeable in the cavernous tissue of the nose), and with feelings of stiffness, heat, burning, dryness, a desire to swallow, which, in some individuals, can only with difficulty, or not at all, be accomplished, and with a very transitory salivation. All these sensations soon pass away. The

degree of anæsthesia obtained in the different parts of the respiratory mucous membranes seems to vary somewhat; as a rule, anæsthesia is more easily produced in the palate, tonsils, and posterior wall of the pharynx, and less so in the nose and larynx. It is very important to know that the anæsthesia and analgesia are strictly limited to the parts which have been in actual contact with the remedial solutions, and that there is no extension of the effect to the parts even in the most immediate neighbourhood. This explains why in some operations in which it is almost impossible to touch, with certainty, *all* the parts in which the surgical interference is to take place previous to the operation, *e.g.*, in removal of nasal polypi, the effect is often smaller than in those operations in which the whole field can, with certainty, be painted previously, as, *e.g.*, in tonsillotomy. In cases of operative interference in either nose or throat, it will be found advisable to paint the part to be operated upon *twice* over with the twenty per cent. solution, at intervals of from one to two minutes, and to allow, after the second application, from two to three minutes to elapse before the operation is proceeded with. In cases of lengthy operations (removal of nasal or laryngeal polypi, etc.) it may be desirable to repeat the applications from time to time during the proceedings.

Coming now to the various uses of cocaine in the upper air passages, I think it right to mention, in a passing manner, not only its strictly therapeutical, but also its diagnostic importance. The applications of cocaine to the palate, uvula, and posterior wall of the pharynx greatly facilitate laryngoscopic and posterior rhinoscopic examination in many hypersensitive persons, by diminishing, or even temporarily abolishing, tactile hypersensibility. It ought not to be forgotten, however, that the difficulties encountered in the laryngoscopic and rhinoscopic examinations of some persons may not exclusively depend upon the local hypersensibility of their fauces, but more upon their nervous temperament. In order to prevent disappointment and depreciation of a most valuable remedy, it ought to be known that in such cases local applications, can be of very limited, if of any, value.

The different uses of cocaine in the respiratory passages have been so well and concisely put together by **L. A. Dessar** ("Cocain und seine Anwendung im Larynx, Pharynx, und in der Nase." Inaugural-Dissertation. Würzburg, 1885) that I cannot do better than translate his summary. He says solutions of cocaine secure

1. Diminution of tactile sensibility. This is useful:

(a) to facilitate laryngoscopic examination in cases of hyperæsthesia by abolition of reflex-phenomena.

(b) in posterior rhinoscopy.

(c) to abolish the augmented sensibility in cases of swelling of the nasal mucous membrane.

2. Diminution of dolorous sensibility

(a) in operations	} executed in any part of the pharynx, larynx, and nose.
(b) in divers examinations	

3. Abolition of dysphagia in cases of stenosis, produced by tumours, of phthisis (scilicet: pharyngeal and laryngeal), syphilis (viz., pharyngeal and laryngeal), perichondritis (viz., laryngeal), tonsillitis.

4. Ischaemia of much injected mucous membranes.

5. Diminution of profuse hæmorrhages.

6. A certain diagnosis in cases of nasal reflex-neuroses (asthma, different forms of neuralgia, hay-fever, epilepsy).

During a year's very frequent use of cocaine in different forms and in different diseases, I have found it most useful (1) in tonsillitis, in which it often abolishes, *for a time*, as if by magic, the dysphagia, and enables the poor patients, who have not been able to swallow even fluids for days, to comfortably enjoy a good draught of milk or beef tea; (2) in tonsillotomy, which operation is really rendered perfectly painless by the previous twice repeated application of a twenty per cent. solution to the tonsils *and their whole neighbourhood*; (3) in uvulatomy; (4) in removal of laryngeal growths; (5) in cauterising the nasal mucous membrane with the galvano-cautery; (6) in diminishing pharyngeal hyper-irritability for purposes of laryngeal and rhinoscopic examination; (7) in acute coryza of adults and infants; (8) in laryngeal phthisis. I have also seen very good effects from the use of cocaine pastils (cocaini hydrochlor. gr. $\frac{1}{6}$ or more pro pastillo) in cases of dysphagia, due to laryngeal phthisis and laryngeal epithelioma. My results during the past year have been less satisfactory in hay fever, the remedy, whether applied in the form of solution, spray, or tabloids, having had but a very temporary, if any, effect, in those cases which have come under my observation. In cases of nasal polypi the effects have been very varying; some patients professed that the previous application of the remedy relieved the small pain caused by the galvanocaustic removal of the growths; others stated that they found no difference. The probable explanation of this discrepancy of statements has already been given.

On the whole there can be no doubt that the introduction of cocaine must be considered as the greatest event in the therapeutics of the upper air passages for some time past.

2. Substitutes for cocaine.

The originally exorbitant price of cocaine naturally induced observers to look out for substitutes for the expensive remedy. Such substitutes were found by **Prosser James** (*Lancet*, July 4, 1885) in the salicylates and benzoates of soda; and by **A. Rosenberg** (*Berliner klin. Wochenschrift*, Nro. 28, 1885) in menthol. Since the price of cocaine has gone down so considerably, and as both authors admit that the efficiency of the remedies proposed by them is less than that of cocaine, no practical importance is likely to be attached to the results of their investigations.

3. Aluminium acetico-tartaricum and aluminium acetico-glycerinatum siccum.

Max Schaeffer recommends these aluminium preparations in the *Deutsches med. Wochenschrift*, Nro. 23, 1885, and again in his above-quoted little work, as caustics, disinfectants, and astringents. They are easily soluble in cold distilled water, and decompose under the influence of heat. The author uses them in the form of powders for insufflation in ozaena, in the form of solutions (a teaspoonful of a 50 per cent. solution in 1 to 2 pints of tepid water), as nasal washes, and (10 drops of a 20 per cent. solution in 6 ounces of water) gargles. The aluminium acetico-glycerinatum is expensive, and its strength is only one-fifth of the tartrate preparation.

4. Glycerinum aluminis.

R. W. Parker (*British Med. Jour.*, January 24, 1885) has found a solution of alum in glycerine, in the proportion of 1:5, a valuable and powerful astringent. The alum is dissolved in glycerine on the application of gentle heat. The remedy is especially recommended in chronic pharyngitis of children, and it is stated that it is much less disagreeable than tannin preparations, equally powerful, and, at the same time, compatible with iron. Diluted with water it is useful as a gargle.

5. Chromic acid.

Hering's warm recommendation of chromic acid, as a caustic, to be used in the upper air passages (*see* last year's report, p. 282), does not appear to have met with a very enthusiastic reception. Only **Rethi** (*Wiener med. Presse*, Nros. 14, 16, 18, 1885) adds his testimonial to the advantages claimed for this caustic by Hering, whilst **Schaeffer** (*loc. cit.*, p. 16) limits his approval to its use in chronic hyperplastic rhinitis. **Köhler** (*Przegląd lekarski*, Nros. 1, 2, 3, 1885) does not appear to be much enamoured with the remedy in cases of nasal polypi. **Bresgen** (*Revue Mensuelle de Laryngologie, etc.*, Nro. 10, 1885) relegates its use to those cases of hyperplastic rhinitis in which the swelling is comparatively

slight, but the nasal passages are very narrow. In such cases he employs chromic acid, because the danger of subsequent coalescence of the walls of the nasal cavity is smaller than when the galvano-caustic method is employed. In cases of considerable swelling he gives decided preference to the last-named method.

In cases of inflammatory œdema of the larynx, following syphilis or phthisis of that organ, **Schiffers** (*Extrait des Annales de la Société Médico-Chirurgicale de Liège*, 1884) has seen good results from touching the affected parts with a solution of chromic acid (1 to 6). The applications are to be made every second or third day.

6. Resorcine.

Justus Andeer (*Med. Centralblatt*, Nro. 8, 1884) states that resorcine disinfects instruments and anæsthetises tissue. It acts as an astringent when used in weak solutions, and as a caustic when employed in greater concentration. He has successfully used it in various laryngeal affections, and has seen good results "in all forms of epithelial hyperplasia or erosions; in cases of loss of voice, arising from these; in putrid affections of the whole laryngeal apparatus; in laryngeal inflammations of different origin; and in tuberculous ulcers."

7. Mineral waters.

The papers intended to show the advantages of mineral waters in catarrhal affections of the upper air passages, and published in the course of last year (**Cadier**, "Conférences sur l'emploi des Eaux Minérales dans les Affections Chroniques Pharyngo-Laryngées," *Annales des Maladies de l'Oreille, du Larynx, etc.*, Nro. 3, 1884; **Farges**, "Les Maladies Chroniques de la Gorge et de la Voix," Paris, 1884; **Terrier**, "Note sur l'emploi de Pulvérisation de l'Eau du Mont-Dore en Inhalations," *Gazette Hebdomadaire de Médecine et de Chirurgie*, Nro. 39, 1884; **Edmond**, "Le Catarrhe Nasal et son Traitement par l'Irrigation continue aux Eaux du Mont-Dore," Paris, 1884; **Tillot**, "Du Coryza Chronique, envisagé au point de vue du Traitement Thermal," *Journal de Médecine de Paris*, 1884, p. 492), stand on the usual level of balneological literature, and cannot claim any particular value.

8. Inhalations.

Solomon Solis Cohen (*Philadelphia Medical News*, October 11, 1884) has slightly modified **Burney Yeo's** respirator (see *British Medical Journal*, Jan. 12, 1884), and speaks highly of the value of continuous inhalations by means of this apparatus, in cases of phthisis, bronchitis, chronic laryngitis, nasal catarrh, syphilitic affections of the throat and nose, &c. He does not claim for the method an absolutely curative effect, but thinks that it is a

valuable adjuvant of other forms of treatment, and that by its means some of the most troublesome symptoms are relieved, even in cases in which a cure is out of the question. **Jacobson** (*Wratsch*, 1884, Nro. 37, 38), and **Gehrmann** (*Berliner klinische Wochenschrift*, Nro. 12, 1885) have constructed new cheap inhalers. **Rumbold**, "The Worthlessness of Inhalers," &c. (*Journal of the American Medical Association*, February 7, 1885) speaks very disparagingly of the value of inhalations in the treatment of chronic nasal catarrh.

B. SPECIAL THERAPEUTICS.

a. THE NOSE.

1. Nasal douches.

A very interesting discussion concerning the use of nasal douches took place in the Laryngological Section of the Fifty-seventh Meeting of German Naturalists and Practitioners, held at Magdeburg, September, 1884. The importance of the admission made by **Prof. Berthold**, and not contradicted by any of the speakers, viz., that the use of nasal douches *frequently* causes acute otitis media, can hardly be overrated. [This is, indeed, a danger, the reality of which appears, from my own experience, to be very insufficiently appreciated in this country. At the first appearance of any nasal or nasopharyngeal affection, a nasal douche is often ordered at once, and but too often without any further instruction how to use it. The cases which I have seen myself, in which indiscreet use of this method has produced acute middle ear disease, justify my speaking so seriously of the dangers of this method. I have for long entirely discontinued the use of every *continuous* form of nasal douche, and replaced it by *interrupted* currents of cleansing or medicated fluids, applied by means of a Higginson's syringe. (Those interested in the *rationale* of the alteration I beg to refer to my explanations, given in the German edition of Morell Mackenzie's "Diseases of the Throat and Nose," vol. ii., p. 356, footnote 2.)] **Berthold** has modified the olive of **Weber's** douche by perforating it doubly, so that in case of occlusion of one nostril, the fluid entering the naso-pharyngeal cavity from the tube introduced into the other nostril is not forced into the Eustachian tubes, but can return through the second opening, the bore of which is wider than that of the one through which the fluid enters. Though he had used this modification in 60 cases without any untoward accident, it appears from the discussion (see *Internationales Centralblatt für Laryngologie*, &c., November, 1884) that all present were not

quite satisfied that the dangerous complication was absolutely excluded by the adoption of the modified douche.

2. Eczema introitus narium.

Lublinski (*Deutsche Medizinal-Zeitung*, Heft 54, 1885) recommends, first of all, in cases of this troublesome affection, removal of the crusts by means of cotton-wool plugs saturated with vaseline. These are to be worn for several hours, especially during the night, and to be followed by epilation of loose hairs. Finally, the application of an ointment consisting of hydrargyr. ammon., bismuth. subnitr. ana gr. xx, vaselini ʒiii , is to be laid thickly on cotton-wool and to be applied to the sore parts. In cases of true eczema, every medication of the interior of the nose is to be avoided, and an ointment consisting of bismuth. subnitr., zinci oxidi ana ʒss , vaselini ʒiii , is to be applied. Kiesselbach (*Monatsschrift für Ohrenheilkunde*, Nro. 2, 1885) in the acute forms advises abstention from any treatment, and in the chronic forms the use of unguentum diachyl. Hebræ or ung. hydrarg. ammon. Moldenhauer (*ibid.*, Nro. 3, 1885) recommends, first of all, to cut the hairs in the neighbourhood of the affected parts as short as possible, then to soften the crusts by nasal baths, afterwards to open the little pustules and to remove the diseased hairs by means of a fine forceps. In cases of diffuse infiltration, repeated puncture is to be resorted to. Baumgarten's treatment (*ibid.*, Nro. 3, 1885) is, on the whole, a modification and compilation of the foregoing methods. Schmiegelow (*ibid.*, Nro. 7, 1885) recommends unguent. diachyli cum oleo vaselini, while in cases of "furunculosis narium" he advises abstention from epilation of the hairs, and the adoption of plugging with perchloride of mercury tampons—cotton-wool saturated with perchloride of mercury (1 to 1000 aq.)—which are to remain for two hours in the nostrils, and then to be renewed. Should irritation of the skin occur, a boracic acid ointment (1 to 10) is to be employed.

3. Epistaxis.

Several valuable papers suggest that in idiopathic epistaxis it is better to try and discover by direct rhinoscopic examination the source of the hæmorrhage, than to be on the look-out for distant hypothetical causes. The authors of these papers (Calmettes, *Gazette Méd. de Paris*, Nro. 19, 1884; Kiesselbach, *Berliner klin. Wochenschrift*, Nro. 24, 1884; Solomon Solis Cohen, *The Polyclinical*, Philadelphia, vol. ii., Nro. 3, 1884; Voltolini, *Revue Mensuelle de Laryngologie*, &c., Oct., 1884) have, by adopting this plan, discovered, in a number of cases of obstinately recurring nasal hæmorrhage, the "fons et origo" of the bleeding, and have succeeded in not only arresting it for the time, but also in preventing

its recurrence, by direct application of different astringents and caustics (perchloride of iron, nitrate of silver, and—most powerful of all—the galvano-cautery) to the bleeding spot.

4. Reflex neuroses originating from the nasal cavity.

This important question stands very much in the same position in which we left it last year. (See *Year-Book of Treatment* 1884, p. 284.) The only difference, perhaps, is that the originator of the idea, **Hack**, has further modified his original ideas (*Berliner klinische Wochenschrift*, Nros. 21 and 22, 1885), and that the number of sceptics appears to be slowly on the increase. On the other hand, it is but fair to state that brilliant successes are continually recorded. (**Max Schaeffer**, *Deutsche medicinische Wochenschrift*, Nros. 23 and 24, 1884; **L. Götze**, *Monatsschrift für Ohrenheilkunde*, Nros. 9 and 10, 1884; **Cresswell Baber**, *Brit. Med. Journal*, Nov. 29th, 1884; **B. Fränkel**, *Berliner klin. Wochenschrift*, Nro. 24, 1884; **Küpper**, *Deutsche med. Wochenschrift*, Nro. 51, 1884; **Julius Sommerbrodt**, *Berliner klin. Wochenschrift*, Nros. 10 and 11, 1885, &c. &c.). For myself, I can only say that, if I omit those cases in which I obtained a very temporary success from consideration, my results have not been very brilliant. I cannot help suspecting, that if a little longer time were allowed to elapse before a good many of apparently successful cases were published, the number of real "cures" would dwindle down very remarkably.

5. Nasal catarrh.

According to **Jarvis** (*New York Medical Record*, March 14, 1885), deviation of the septum narium plays a very important rôle in the etiology of chronic nasal catarrh. A cure of this troublesome complaint can often only be obtained by operative interference with the deviated partition—an interference calculated to remove the pressure exercised by the septum upon the tissues covering the turbinated bones, and the defective drainage of the nose caused by the obstruction. Jarvis has come to the conclusion that there is no method which can be uniformly used for this purpose, and he recommends a number of procedures and instruments, the description of which cannot be given in the limited space at my disposal. Those interested in the question must therefore be referred to the original. A most excellent little brochure on "The Diagnosis and Treatment of Chronic Nasal Catarrh" has been written by **G. M. Lefferts** (St. Louis: Lambert and Co., 1884), which may be warmly recommended to our readers. Prof. Lefferts is much opposed to the use of the nasal douche. He advises in simple rhinitis insufflations of

salicylic acid, tannin, iodoform, belladonna, &c. ; in the hypertrophic and atrophic forms, cleansing and antiseptic sprays.—The elaborate treatment recommended by **J. M. W. Kitchen** in cases of acute rhinitis (*New York Med. Record*, May 23, 1885) appears certainly to be rational, but I doubt whether many patients would be found willing to submit themselves to the following measures in order to obtain relief from so trivial an affection : *i.e.*, being kept absolutely quiet in horizontal position in a moderately warm room, heat being applied to the feet, whilst cold applications are being made to the nose externally, &c. Infinitely more simple is **Kebbell's** proposal (*Brit. Med. Journal*, Feb. 28, 1885) to hold (at the onset of a cold) a bottle containing tincture of benzoine to one nostril, to close the other with the finger, and to inspire deeply. Kebbell claims for this method that it not only relieves the troublesome symptoms at once, but almost always cuts short the attack itself.

6. Nasal polypi.

B. W. Richardson (*The Asclepiad*, vol i., Nro. 3, 1884) recommends to saturate a piece of cotton-wool (which is being held between the branches of a fine pair of forceps and wound round them) with sodium ethylate ; to introduce this into (?) the polypus, to hold it there for two or three minutes, and then to withdraw it, when generally, according to the author, a whole mass of destroyed polypi will be removed by strongly blowing the nose. The bases of the polypi are then to be touched with sodium ethylate. The author has never seen recurrence, violent inflammation, or hæmorrhage take place when this method was used, but the application is stated to cause short burning pain.

Berthold (*Internat. Centralblatt für Laryngologie*, vol. i., p. 160) recommends in cases in which polypi are situated in the neighbourhood of the posterior nostrils, and evade instruments by slipping into the naso-pharyngeal cavity, to introduce a small silk string through the nose into the cavity of the mouth, to attach to the end hanging down behind the palate a plug of cotton-wool large enough to occlude the posterior nostrils, then to pull back the nasal end of the string, and so force into and keep the polypi within the nose, when they can be securely removed.

7. Ozaena.

Loewenberg (*Edin. Med. Jour.*, July and Aug., 1885) considers that infection by means of a specific coccus is the only cause of ozaena, and, therefore, proposes an "antiparasitic" treatment. He first irrigates the nose with a solution of perchloride of mercury (1 to 10,000—1 to 7,000), then administers a nasal bath, and finally insufflates powders of boracic acid. The patient must frequently change his pocket-handkerchiefs.

8. Hay-fever.

Omitting the numerous contributions on the treatment of this affection in which old proposals are reiterated (see the article in last year's volume), and referring, with regard to the use of cocaine, to the paragraph devoted to that subject, it remains to be stated here that **W. Judkins** (*Medical Record*, vol. xxvi., Nro. 10, 1884) recommends syrup. acid. hydrojodici, one teaspoonful every hour or every two hours.

9. Nasal bougies.

Instead of using the galvano-cautery in slighter forms of nasal reflex neuroses (asthma, spasmodic sneezing, hay-fever, cough, profuse watery secretion, &c.) **G. Hunter Mackenzie** (*British Med. Journal*, May 16, 1885) recommends the use of gelato-glycerine bougies, containing from $\frac{1}{16}$ to $\frac{1}{8}$ of a grain of extract. belladonnæ. A bougie is to be introduced at bedtime into each nostril, and to be left until it dissolves. Previous to this the nose is to be cleansed by means of a spray. An improved formula for the basis of these nasal bougies is given by **Maxwell Ross** (*Edinburgh Med. Journal*, Aug., 1885). This is as follows:—Prep. gelatin., $\bar{3}j$; aq. dest., $\bar{3}jss$; to be soaked through for twelve hours, after which glycerin. $\bar{3}jss$ is to be added, and the mixture to be dissolved in the waterbath. Other drugs (cocaine) can, of course, be utilised in the same manner.

(b) NASO-PHARYNGEAL CAVITY.

10. Affections of the bursa pharyngea,

To **Tornwaldt** the merit is due of having drawn attention in a monograph—"On the Importance of the Bursa Pharyngea for the Diagnosis and Treatment of certain Naso-pharyngeal Affections" (Wiesbaden, E. F. Bergmann, 1885)—to a hitherto unsuspected source of mischief. The affections of the bursa pharyngea (which is situated in the vault of the pharynx, and the entry to which can be usually seen by posterior rhinoscopy, according to the author, when a palate hook is used, as a round or oval opening about midway between the posterior nostrils and the protuberance of the atlas) occur either in the form of catarrh or of the formation of retention cysts. In the former case hypersecretion occurs, and the mucous membranes of the nose, the naso-pharyngeal cavity, the pharynx, and the ear are prone to take part in the catarrh; while when a cyst has been formed, reflex neuroses (headache, cough, asthma, &c.) are apt to occur. The treatment consists in removal of the secretion, insufflation of nitrate of silver (1 to 10 amylum), introduction of a probe (to which nitrate of silver has been fused) into the excretory duct of the bursa, and, if a cyst has

been formed, incision by means of the galvano-cautery. This little work, of which only a very incomplete report could here be given, is well worth careful study. The cases which the author narrates are very instructive,

(c) PHARYNX.

11. Scalded throat.

H. D. Palmer (*The Practitioner*, April, 1885) saved a child, æt. 3, who had drunk boiling water from the spout of a tea-kettle, and whom he found almost moribund, by feeding it by means of a teaspoon with cod-liver oil and lime-water in equal parts. Later on milk was administered, and the quantities of lime-water and cod-liver oil gradually reduced. From the first, this method relieved the pain in a very remarkable manner. The child finally recovered entirely.

12. Syphilitic affections of the mouth and throat.

Moloney (*Australian Med. Jour.*, Feb. 15, 1885) recommends in secondary syphilis of the mouth and throat, to give a solution of hydrarg. proto-jodidi gr. ss—j, muc. acac. ʒj, aq. dest. ad. ʒss, a quarter of an hour after every meal. This mixture is to be well shaken, and to be brought into contact with all parts of the cavity of the mouth before it is swallowed. For at least an hour after the patient is not to take anything else. A cure is stated to result in two to three weeks. The mouth is to be kept scrupulously clean. Should diarrhœa and colic occur the dose must be diminished, or a small addition of opium is to be made. The mixture is to be made up fresh each time. A. Stirling (*ibid.*, April 15, 1885) recommends, in secondary syphilis of the throat, local application of nitrate of silver; in obstinate cases of secondary and in tertiary syphilis, local application of solutions of chromic acid (gr. x ad ʒj.). In irritable phagedænic ulcers, boracic acid and glycerinum boracis are recommended, and in mucous patches and deep syphilitic ulceration of the tonsils, the author avails himself of the thermo-cautery and galvano-cautery.

(d) LARYNX.

13. Laryngeal phthisis.

Schmiegelow (*Hospitals-Tidende*, Nro. 49, 1884) has obtained good results from energetic use of the galvano-cautery in cases of tubercular infiltration of the larynx and of tubercular ulceration of the pharynx. Whistler (*Med. Times*, June 13, 20, 1885) shows, in a very thoughtful paper, "On the Prognosis of Laryngeal Phthisis as Influenced by Local Treatment," how much may be done by judicious local treatment, not only in order to relieve the

urgent symptoms, which unavoidably hasten the fatal end, but also in some cases to actually arrest the morbid process. The study of the article in the original is warmly recommended. H. Krause (*Berliner klin. Wochenschrift*, Nro. 29, 1885) speaks very highly of applications of very strong solutions of lactic acid to the tubercular larynx. He uses solutions in a concentration from 20 to 80 per cent. The stronger solutions cause, according to him, short burning pain. The result is cicatrisation of the parts to which the solution has been applied, and, according to him, immunity of the cicatrised spots against tubercular reinfection. However, he does not imply that the phthisical process may not attack other, formerly healthy, parts of the larynx. Krause's statements are corroborated by Gottstein and Hering, whilst Schnitzler's, Heymann's, Rosenberg's, Böcker's, Lublinski's (*see Berliner klin. Wochenschrift*, Nro. 45) results have been not at all satisfactory. Krause urges that the applications ought to be made daily, and by experienced hands. Further and longer continued observations, the necessity of which was especially urged in the discussion by Professor Virchow, will be required before a definite judgment can be given on the value of the remedy in laryngeal phthisis.

The above report by no means exhausts the list of papers which have been devoted between October, 1884, and October, 1885, to the therapeutics of throat and nose affections. Much has been written about the treatment of affections of the sinus frontales, the antrum, of adenoid vegetations, of the removal of laryngeal polypi, of laryngeal stenosis, of extirpation of the larynx, &c. But in not a few of the papers relating to these subjects the directions given are so detailed that an abbreviated report cannot convey a true idea of the authors' methods and intentions. I refrain, however, with less regret, from entering upon these topics, and from enumerating a host of papers which ought to be studied in the original, as it can hardly, in justice, be said that a really important progress has been made with regard to the treatment of any of the last-named affections. The therapeutical reputation of the year 1885 will rest, so far as affections of the throat and nose are concerned, upon the introduction of cocaine into our armamentarium.

SUMMARY OF THE THERAPEUTICS OF THE YEAR 1884-85,

CHIEFLY IN REFERENCE TO NEW REMEDIES.

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WORKS ON THERAPEUTICS.

Subjoined is a list of some of the new books or new editions of standard works, which can be recommended as conveying the best and most recent information upon therapeutics:—

1. Binz, C., "Vorlesungen über Pharmacologie." In 3 Abtheil., I. and II. Abth. Berlin.
2. Böhm, R., "Lehrbuch der allgemeinen und speciellen Arzneiverordnungslehre." Ed. II. Jena.
3. Bruce, J. Mitchell, "Materia Medica and Therapeutics." 1884.
4. Brunton, T. Lauder, "Pharmacology, Therapeutics, and Materia Medica," pp. 1,139. 1885.
5. Gubler, A., "Commentaires Thérapeutiques du Codex Medicamentarius," 3me Edit., par Labbé. Paris.
6. Husemann, A.; Hilger, A.; Husemann, Th., "Die Pflanzenstoffe in chem., physiolog., und toxicol. Hinsicht," 2te Aufl., pp. 1,571. Berlin.
7. Nothnagel, H., und Rossbach, M. J., "Handbuch der Arzneimittellehre," 5 Aufl., pp. 916. Berlin.
8. Whitla, W., "Pharmacy, Materia Medica, and Therapeutics," 3rd. Edit. 1885.
9. Ziemssen. "Handbook of General Therapeutics."

1. Among the topics of therapeutical interest which have attracted special attention during the past year (Oct., 1884—

Oct., 1885) may be instanced the continued study of antipyretic remedies ; the manifold applications of cocain ; and the important question of dietetics for the sick.

Cocain, which in the *Year-Book* for 1884 secured a bare mention (p. 271) has now a literature of its own so extensive and multifarious as to be difficult to deal with summarily in the space at disposal, and its remarkable properties are amply discussed by the various contributors to this volume.

2. *Menthol*.—In view of the costliness of cocain, **Dr. Rosenberg**, of Berlin, cast about for some substitute which might at least partly act as a substitute, and he has made a number of experiments with menthol. He tried solutions in ether (20 per cent.) and alcohol (20 to 50 per cent.), and latterly oily solutions which cause little or no unpleasant sensations.

The sensibility of the mucous membrane (nose, throat) was, in some cases, temporarily exalted by a 30 per cent. solution, but this was speedily followed by a marked lowering of sensibility, often amounting to complete anæsthesia. Reflex irritability of the fauces was much diminished, and laryngeal examinations are thus facilitated ; but strong solutions cannot be applied directly to the larynx without causing inconvenient coughing. In two patients affected with granular pharyngitis cauterisation with chromic acid was practised without causing the least pain, after the previous application of a 50 per cent. alcoholic solution of menthol. (*Berl. klin. Wochensch.*, No. 28, 1885.)

3. Chemistry and practical medicine are becoming more intimately associated every day, and a band of zealous workers is engaged in investigating the physiological and therapeutical properties of some of the vast array of compounds which are constantly being built up by the refined methods of synthetical chemistry.

In the preceding *Year-Book* a sketch was given of the line of direction which these investigations have followed in reference to antipyretic drugs. An elaborate paper has been published by **Dr. R. v. Jaksch** (*Zeitsch. für klin. Med.*, 1884), which is important in this connection, and of which a short epitome may be acceptable. The repeated attempts which chemists have made to artificially prepare quinine and allied bodies have not as yet been crowned with success, but still the search has led to the discovery of several compounds of considerable interest.

4. The first step in the series of discoveries was made by **Bayer** (1879) and **Skraup** (1881) in the synthesis of chinolin or quinolin (C_9H_7N). This liquid has feeble antipyretic properties, and was recommended by **Donath** and **Loewy**, but has failed to

secure a footing in therapeutics. To chinolin succeeded the discovery by Fischer of the methyl and ethyl-hydrides of oxychinolin (viz., the two varieties of *kairin*), which were first examined from a practical point of view by Filehne (1882). After a crop of numerous papers extolling the antipyretic virtues of kairin, the drug seems in a fair way to be soon forgotten, owing chiefly to the inconveniences attending its administration, and the alarming symptoms (cyanosis, depression, collapse) liable to follow upon its use.

Since, however, chinolin, and in a higher degree kairin, undoubtedly possess antipyretic actions, there was ground for hoping that other derivatives of chinolin, more closely allied to quinine, might be found, which would act even more powerfully and persistently as antipyretics, and less often give rise to unpleasant after-consequences.

5. Quite recently Skraup has synthetically prepared a series of bodies from which, on the above grounds, definite antipyretic action might be expected, and Dr. R. v. Jaksch has taken the trouble to investigate them from a physiological and therapeutical point of view.

Starting from chinolin (C_9H_7N) we get (a) oxychinolin, C_9H_7NO , the hydrochlorate of which appears to have some effect in lowering temperature (healthy rabbits), but no therapeutical observations were made upon it. Then (b) tetrahydro-oxychinolin, $C_9H_{11}NO$, i.e., oxychinolin + H_4 . Its hydrochlorate is an active poison.

(c) Chinanisol, $C_{10}H_9NO_3$ (i.e., methyl-oxychinolin). The term, chinanisol, indicates its analogy with anisol, the methyl-ether of phenol. The salts of this compound are powerfully antipyretic and non-poisonous. They give no colour reaction with ferric salts. Jaksch has tested clinically the action of the tartrate, hydrochlorate, and sulphate, but does not recommend them for further trial.

(d) Tetrahydro-chinanisol, $C_{103}H_{13}NO$ (*thallin*), i.e., chinanisol + H_4 . Its salts strike a *green* colour with ferric chloride and other oxidising agents, by which it is distinguished from other antiseptics and antipyretics, and hence the empirical name, "thallin," given to this base. Jaksch has tested the action of its tartrate, hydrochlorate, and sulphate.

(e) Ethyl-thallin, $C_{10}H_{12}C_2H_5NO$. Its salts are readily soluble in water, and develope a red colour with ferric chloride. Jaksch has examined the action of the hydrochlorate of this base.

6. Observations upon the effects of thallin and ethyl-thallin in different acute diseases prove that these compounds are powerful

antipyretics, and Jaksch especially suggests the further employment of the hydrochlorate and sulphate of thallin. The sulphate is soluble in five times its weight of cold water, and is freely soluble in boiling water. The salt possesses a peculiar aromatic odour, and, in dilute solutions, a tolerably agreeable taste. Dose $\frac{1}{8}$ — $\frac{1}{2}$ grm. (2—7 grs.). Within from $\frac{1}{2}$ —1 hour after administration sweating sets in, and the temperature begins to fall, the minimum being attained in from 2—4 hours. The temperature subsequently rises, often rapidly, and this is apt to be attended with sharp rigors. The frequency of pulse and respiration is diminished, but no unpleasant or dangerous after-symptoms have been observed.

The effects of ethyl-thallin agree in the main with those of thallin. Dose, at least $\frac{1}{2}$ gramme. A greenish colour is communicated to the urine, and ferric chloride strikes with it a purplish-red colour soon after the ingestion of either drug. Thallin appears to reduce the temperature more speedily than antipyrin, and to be less noxious than kairin. In order of energy of action, these bodies stand thus:—(i) Thallin, (ii) antipyrin, (iii) kairin (de Renzi).

M. Jaccoud (*Gaz. des Hôpitaux*, 1885) has administered sulphate and tartrate of thallin to eleven patients, and concludes that thallin is the most energetic antipyretic known, but that its administration demands great caution from fear of collapse. Dose to begin with 25 centigrammes in two doses at an hour's interval. The depression of temperature never lasted more than two or three hours, counting from the time when the minimum temperature was reached, which varied from three-quarters to three hours. (Hayem, *Rev. des Sci. Méd.*, Oct.) **Predazzi** confirms the prompt and decided antipyretic action of thallin. Dose, 10 centigrammes. **Maragliano** (*Gazz. degli. Ospit.*, July) has investigated the physiological action of thallin, and concludes that its mode of operation is analogous to that of antipyrin. Thallin acts as an anti-pyretic by dilating the vessels, by increasing the loss of heat, and by diminishing organic combustion through its influence on the respiratory capacity of the blood, which is lessened by it, according to Maragliano's measurements. In regard to febrile temperatures, Maragliano found that doses varying from 0.1 grm. to 1 grm. produced a fall of temperature varying from 0.7° C. to 4.7° C (*Lond. Med. Rec.*, Oct., 1885).

7. Reviewing the evidence at hand as regards the effects of thallin, it can scarcely be said to possess superior advantages as an antipyretic over *Antipyrin*, which bids fair to maintain its place in the materia medica, and to deserve an extended trial. A considerable amount of testimony from many quarters is now

on record as to its valuable qualities, and some of the newer contributions to its literature may be noted.

8. As kairin is a derivative of the basic body chinolin, so antipyrin is a derivative of a basic nucleus, termed chinicin (chinizin), which, however, has not been isolated. Its technical name is dimethyl-oxychinicin ($C_{11}H_{12}N_2O$). In aqueous solution anti-pyrin gives with ferric chloride a deep red colour, perceptible in a dilution of 1 in 100,000, and this reaction, which is common to most of the chinicin derivatives, can be used for detecting the presence of antipyrin in urine.* Compounds of glycuronic acid are also found in the urine. The general consensus of observers confirms Filehne's original statements. Anti-pyrin fulfils the requisites of a good antipyretic. It depresses temperature with certainty, the fall of temperature is considerable, the dose can be proportioned approximately to the desired fall, the lowering of temperature persists for a sufficient length of time, and the use of the drug is relatively free from noxious sequelæ.

From December, 1883, **P. Guttman** has used antipyrin in 297 cases of disease. In high fever he recommends two doses of 2 grm. each at an hour's interval. This will lower the temperature for several hours by at least $\frac{1}{2}$ to 2° C. and often more. In about half the cases sweating does not occur, and rigors never occurred during the subsequent rise of temperature, as happens with kairin. It sometimes brings out a papular measly rash. The urine is unaltered in appearance. (*Berlin klin. Wochensch.*, 25, 1885.)

The experience of **Professor Cesari**, of Modena, and of **Dr. Zasetsky**, is in harmony with these results. **Dr. J. Holland**, who practises at St. Moritz, has naturally had a large experience of consumptive patients, with frequent occasion to treat the pyrexial attacks to which they are so subject. For the last eight months (May, 1885) he used antipyrin, and in his hands it has been more successful than all other drugs put together, such as quinine, salicin, aconite, kairin, and Warburg's tincture. Not only in phthisis, but in various other forms of pyrexia, he has administered the drug without encountering any serious symptoms of disturbance, and he believes that 15 to 20 grains may be given every four hours to adults without any fear of bad results. **MM. Arduin and Coculet** (*Thèses de Paris*, 1885) also speak very favourably of the value of antipyrin in phthisical cases.

* A number of tests indicated by Renzone for recognising in the urine some of the other antipyretic drugs, are quoted in *Lond. Med. Rec.*, April, 1885, p. 155.

Dr. Argutinsky has had excellent results with antipyrin in croupous pneumonia in children, and thinks that in several cases it not only acted as an antipyretic, but really cut short the fever, the fall of temperature not being followed by any rise. The author recommends the following minimal doses:—For children under one year of age, 0·2 grm. (3 grs.), three times a day, at intervals of three hours; children from one to three years of age, 0·3 grm., similarly; for children aged four or five, 0·3 to 0·4 grm., three times a day, at intervals of two hours; for children aged from six to eight years, 0·5 to 0·6 grm., three times daily, at intervals of two hours; and children of ten or twelve, 0·6 to 0·75 grm., thrice a day, at intervals of an hour. (*Lond. Med. Rec.*, Jan., 1885, from *Vratch.*) Like **Dr. Argutinsky**, **Dr. Kostyleff** finds that children bear antipyrin remarkably well, and it seldom produces marked perspiration in them (*Lond. Med. Rec.*, Feb., 1885). Upon the whole the evidence goes to show that hourly doses of one grm (15 grs.) will probably prove sufficient in most cases of pyrexia in the adult, and that the doses at first recommended were possibly too large. Moreover, it should be used with some caution, and the following untoward consequences have been observed subsequent to its administration:—

(a) Nausea and vomiting—**Kostyleff** and others.

(b) Rigors—**Busch, Hoffer.**

(c) Erythematous rash—**Chan, Alexander.**

(d) Collapse—**Tillmann, Pribram, May, &c.**

(e) Death—**Dr. Barrs**, of Leeds, reports a case of a woman, aged thirty-five, attacked with puerperal fever. T. 103·6, P. 122, R. 36. Quinine had been given without antipyretic effect. Then she got 35 grains of antipyrin, followed three hours later by half that quantity. In three to four hours afterwards the temperature fell to 98·4, pulse 132. The temperature did not again rise until the patient was actually in collapse, and she died thirty-two hours after taking the drug. Nothing was found at the necropsy to account for death. (*Lancet*, Feb. 28, 1885.)

9. *Naphthalin*.—This solid hydrocarbon ($C_{10}H_8$), procured from coal-tar, has been known to chemists for more than sixty years, but scarcely attracted attention in practical therapeutics, except as an external parasiticide (scabies), until quite lately. (Cf. *Year-Book of Treatment*, 1884, p. 52.) It occurs in thin, white, shining crystals, with a strong odour, and burning taste. It is soluble in alcohol, ether, fixed and volatile oils. Naphthalin possesses powerful antiseptic properties, and as it is insoluble in water, and sparingly absorbed from the gastro-intestinal tract, and is non-poisonous, it offers advantages over other antiseptic drugs in

regard to local action within the intestines. **Rossbach** (*Berl. klin. Wochensch.*, 42, 46, 1884) thinks it the best agent for disinfection of the intestinal contents, and it may be administered without danger internally for weeks, even to the extent of five grms. per diem. The naphthalin must be perfectly pure, and the dose to commence with is 0·1 to 0·5 gm. (7 grs.) rubbed up with an equal weight of sugar, and flavoured with oil of bergamot. It may be administered in oblates or wafers. Dose for children, one half to two grains. It renders the fæces inodorous, and Rossbach employs it with benefit in various forms of diarrhœa, and of intestinal catarrh, with or without ulceration.

But as some of the naphthalin is absorbed and is eliminated in the urine, partly as naphthalin and partly as α -naphthol, it likewise proves serviceable in checking and preventing vesical fermentation, so that in from one to two days the micrococci disappeared from the urine in cases of catarrh of the bladder. **Dr. Cushing** (U.S.) confirms this observation. He gave two grains in wafers or capsules. **Pauli** (*Berl. klin. Wochensch.*, 9, 1885) endorses Rossbach's recommendation, and has used naphthalin with advantage in enteric affections of children under five years of age. **Schwarz** (*Centralblatt. für klin. Med.*), **Ewald**, and **Lehmann** (*Berl. klin. Wochensch.*, 1885) add their favourable testimony as to its value in overcoming fæcal odour—*e.g.* in carcinoma.

Slight urinary irritation is occasionally produced, and the urine is darkened in colour. **Binz** considers (*Wien. med. Blätter*, 28) that naphthalin has established its place as a remedy of approved value in putrid states of the contents of the bowel. **Jatzuta** and **Dovodtchikoff** highly eulogise naphthalin in fine powder as an application for ulcers (*Lond. Med. Rec.*, Nov., 1884, Aug., 1885). It is cheap, simple to use, deodorant, and induces a rapid growth of healthy granulations. According to **Diakonoff**, it occasionally causes pain.

10. In connection with putrescent intestinal processes and intestinal antiseptis, it may be mentioned that **Dr. Dujardin-Beaumetz** highly extols carbon disulphide internally. His formula for the solution is—

R	Carbon disulphide	...	...	25 grammes.
	Water ...	...	...	500 grammes.
	Spirit of peppermint	...	...	gtt. xxx.
M.				

Put into a large flask, shake, and let stand. Dose, 8—10—12 table-spoonfuls per day, in wine and water or in milk. The solution costs only a few farthings per litre. (*Therap. Gazette*, March, 1885.)

PHENOL DERIVATIVES.

11. *Aseptol*.—This compound, otherwise termed sulpho-carbo (orthoxyphenyl-sulphurous acid) is highly spoken of by **Annessens**, of Antwerp. It is a syrupy, rose-coloured, volatile liquid, with a strong odour, and is non-irritant. Annessen's conclusions, supported by extensive experience, are as follows:—(1) *Aseptol* readily dissolves in every proportion in water, alcohol, and glycerin. (2) It is more acid, but at the same time less caustic than carbolic acid, and it directly combines with bases. (3) It is perfectly harmless. (4) Its antifermenting, antiputrid, and disinfectant properties are more energetic than those of salicylic and carbolic acids. Hence it recommends itself as a substitute for carbolic acid, and promises to be highly serviceable in hygiene. (*Lond. Med. Record*, Aug., 1885.)

12. *Phenol-resorcin*.—Melt together

Carbolic acid...	...	67 parts.	
Resorcin	...	33 parts.	Add 10 parts water.

The mixture then remains liquid, and is soluble in water *in all proportions*, and furnishes an efficient and convenient antiseptic preparation (*Year-Book of Pharmacy*, 1884).

13. *Phenol-camphor*.—Warm crystallised carbolic acid until it melts, and then gradually add an equal quantity of camphor. The result is a colourless liquid, with the fragrant odour of camphor, which entirely extinguishes that of carbolic acid. Insoluble in water and glycerin; soluble in alcohol, ether, and volatile oils, and mixes well with paraffin, cosmolin, and many oils. **Dr. Schaeffer**, Illinois, has used phenol-camphor with good success as a local anæsthetic in toothache, in-growing toe-nails, &c. Phenol-camphor is less irritating, less caustic than carbolic acid, and has the advantage of possessing a pleasant odour. (*Ther. Gazette*, April, 1885.)

14. *Ichthyol* is a product obtained by dry distillation from a bituminous rock in the Tyrol, rich in fossil remains of fish. It is a thick, tarry-looking substance; contains about 10 per cent. of sulphur, and is regarded (**Baumann** and **Schotten**) as the sodium salt of a dibasic acid ($C_{28}H_{36}S_3Na_2O_6$), ichthyol-sulphuric acid.

Ichthyol was introduced by **Unna** as a remedy in various chronic skin diseases, and **Thimann** (*Dissert.*, Halle) recommends it in acute rheumatism, and considers that it relieves pain and promotes absorption of the arthritic swellings. He employs a 30 per cent. to 60 per cent. solution in water locally, and also gives it internally

in pills (6 per diem; 0.1 grm. in each). **Lorenz** also speaks well of ichthyol in rheumatism (*Deutsch. med. Wochensch.*). **Dr. A. Sinclair** has used it in eczema with fair success, but records a case which suggests a caution as to its use. An infant, four months old, was ordered, for eczema, an ointment of 1 part ichthyol to 5 of vaselin. Within two hours of the application the child sank into a deep stupor, which lasted twelve hours, and caused great anxiety, after which it gradually revived and made a complete recovery. (*Brit. Med. Journ.*, Nov., 1884.)

HYPNOTICS.

15. *Paraldehyd.* — **Dr. Hodgson** recommends the following formula:—℞ Pulv. trag. co. ʒi.; Syr. aurant. ʒiv.; Paraldehyd ʒi.; sp. chlorof. ℥ xv.; Aquæ ad ʒ iii.

The sleep produced by it is calm, closely resembling that of health, with no unpleasant premonitory or after effect, and its action is prompt. It does not depress the heart, and appears to suit gouty patients better than chloral. Its use is contra-indicated in irritable states of the throat or stomach, on account of its acidity. Its peculiar odour is perceptible in the breath for many hours. (*Brit. Med. Journ.*, July 18, 1885.)

16. *Urethan.*—This is a substance resembling spermaceti in appearance; inodorous and soluble in alcohol. Its chemical name is carbamic ether, $C_2H_5H_2NCO_2$ (not to be confounded with carbonic ether, which is a liquid of a sweet aromatic odour).

Dr. v. Jaksch has experimented with it on animals and on man, and finds it to be an excellent hypnotic. He has employed it 110 times in twenty different cases, and is highly satisfied with the results. Refreshing sleep was generally induced by 7 or 8 grains at bed-time, repeated, if necessary, in two hours. In a case of insomnia in a hemiplegic patient with valvular disease of heart, and whose condition contra-indicated the employment of morphine and chloral, two doses at 7 and 8.30 p.m. produced a really good night's rest, without the least disagreeable effect. (*Brit. Med. Journ.*, Sept. 26, 1885.) [See a paper by **Schmiedeberg**, "On the action of some ethereal salts of carbamic acid," *Practitioner*, Oct., 1885.]

17. *Oxalic Ether* ($C_2H_5)_2C_2O_4$.—In a recent number of the *Asclepiad*, **Dr. B. W. Richardson** refers to this compound, which he believes will play as useful a part in surgery as the ethylates and "colloids" introduced by him. It is a colourless liquid: sp. gr. 1.090, with a pleasant odour and pungent taste. When administered hypodermically oxalic ether is decomposed, at the point where it is introduced, into oxalic acid and alcohol. Hence it

coagulates the albuminoid structures, and produces almost painlessly a free and dry eschar, without marked constitutional disturbance, unless used in excess. Dr. Richardson believes that this compound will prove of service in application either by the brush or by needle injection for the removal of morbid vascular growths. It is prepared by the action of oxalic acid upon absolute alcohol.

Invalid Dietary and Artificial Feeding.—In reference to these important subjects and their relation to practical therapeutics, much light has been thrown by recent experimental inquiries, especially those conducted by **Dr. W. Roberts**, of Manchester. Most valuable information will be found in Dr. Roberts' address on "Therapeutics" (*Brit. Med. Journ.*, Aug. 1, 1885), and in his new work, "Lectures on Dietetics and Dyspepsia;" also in **Dr. Lauder Brunton's** Lettsomian Lectures for 1885, embodied in his work on "Disorders of Digestion, their Consequences and Treatment." For some critical comments upon prepared foods and digestive preparations, see an article in *Lond. Med. Rec.*, Jan., 1885, p. 15), and a paper by **Dr. Stutzer**, of Bonn.

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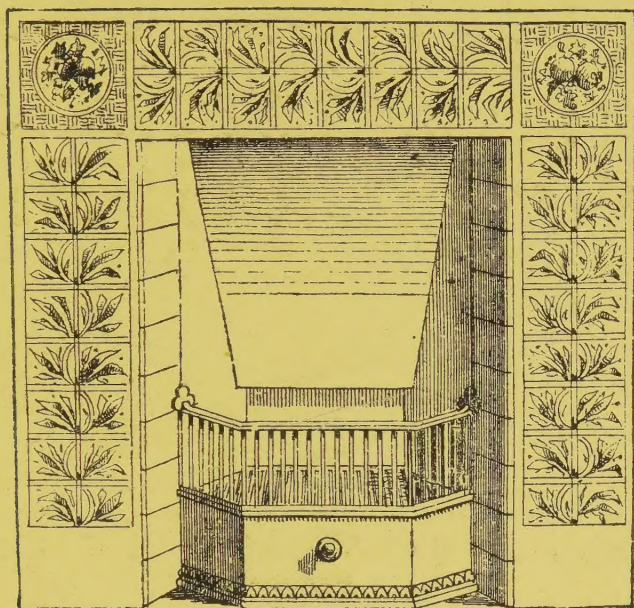
TERMS, 90 Guineas for the Academical year, payable 30 Guineas in advance, on October 1st, January 1st, and May 1st, to include Special Instruction by the Demonstrators on four days a week.

The Dean or the Warden will be happy to show the arrangements of the College, or to give any further information concerning it. [8]

THE "WEST RIDING" GRATE

AND

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